

**Age-Related Changes in Children's Perceptions  
of Social Deviance**

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## ABSTRACT

### Age-Related Changes in Children's Perceptions of Social Deviance

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From an adult perspective aggression and social withdrawal represent fundamental categories of deviant social behaviour in children. Considerably less is known, however, about children's perceptions of deviance in their peers. This investigation employed multidimensional scaling to examine how children of varying ages perceive aggressive and socially withdrawn behaviour. In the first study, first, fourth, and seventh grade children's ratings of these behaviours in their peers were examined. It was observed that, with increasing age, children relied less on a simple social evaluative dimension in organizing their perceptions and more on an active - passive dimension. Aggression comprised a well defined category of deviance for children at all grades, whereas social withdrawal became better defined as grade increased. While these findings suggested an age-related shift in children's perceptions of deviance, both age of rater and age of those rated varied systematically across grade. A second study, therefore, examined grade related differences that were attributable to changes in the behaviour of the children rated by examining the ratings of first, fourth and seventh grade teachers. No changes were found across grade level in the organization of teacher ratings, suggesting that the trend across grades in

peer ratings reflected rater-specific rather than ratee-specific differences. A third study examined the hypothesis that age-related changes in children's perceptions of aggression and withdrawal reflect developmental shifts in how children conceptually categorize behaviour. The organization underlying children's beliefs concerning how behaviours are likely to co-occur was assessed through examining their ratings of behaviour that might be displayed by a series of hypothetical children. A grade related shift was found which paralleled that underlying children's ratings of actual peers. This finding suggested that such a conceptual change may underlie changes observed in children's peer ratings. This hypothesis was tested in a fourth study through the examination of children's ratings of children who were not age-mates. In this study, first graders rated the behaviour of familiar seventh graders, and seventh graders rated the behaviour of first graders. First graders' view of deviance in seventh graders paralleled their undifferentiated view of deviance in their age-mates, while seventh graders viewed deviance in first graders from the same more differentiated perspective as underlay their ratings of age-mates. These four studies indicated that children's view of deviance differs from that of adults, and that aggression and withdrawal are perceived differently by children of different ages. The implications of such differences for the use of peer evaluations in the assessment of social deviance were discussed.

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## Contents

Introduction	1
Overview of the Present Investigation	16
Study 1: Age-Related Changes in the Organization of Children's Ratings of Aggression, Withdrawal, and Likability in their Peers	25
Study 2: Grade-Related Changes in the Structure of Teacher Ratings of Aggression, Withdrawal, and Likability	35
Study 3: The Conceptual Structure Underlying Children's Perceptions of Aggression, Withdrawal, and Likability	44
Study 4: Children's Ratings of Older and Younger Children	57
General Discussion	67
References	78
Appendix A: The French Translation of the Pupil Evaluation Inventory	87
Appendix B: The French Translation of the Abbreviated 16-Item version of the Pupil Evaluation Inventory	90
Appendix C: Questionnaire Used in the Rating of Hypothetical Children: Form A	92
Appendix D: Questionnaire Used in the Rating of Hypothetical Children: Form B	109
Appendix E: Items Used in the Rating of Older and Younger Children	126
Appendix F: ANOVA Summary Tables	129

INTRODUCTION

Childhood peer relations have assumed a role of central importance in the assessment and classification of childhood psychopathology over the last 25 years (Achenbach & Edelbrock, 1978; Quay, 1972, 1979; Ross, 1980). How children relate to their peers has not only served as a means for classifying childhood deviance, but has also been found to provide a valuable predictive index of later functioning in adolescence and adulthood (Kohlberg, LaCrosse, & Ricks, 1972; Roff, Sells, & Golden, 1972). Because children represent actual participant observers of the social behaviour of their peers and may consequently view such behaviour from a unique perspective, investigators have also increasingly chosen children to serve as assessors of the social functioning of their peers. Indeed, it has been argued that the assessment of peer opinion provides the investigator with a unique and possibly otherwise unavailable source of information that can serve as a particularly meaningful standard against which to judge deviance in children (Smith, 1967; Wiggins & Winder, 1961).

Despite the intuitive appeal of peer assessment procedures, empirical evidence concerning their validity remains equivocal. Their justification is based largely on the reported sensitivity of peer opinion to subtle signs of impending psychopathology. Childhood peer evaluations have displayed remarkable accuracy in the identification of children vulnerable to later

## Children's Perceptions of Deviance

psychiatric difficulty in adulthood (Cowen, Peterson, Babigian, Izzo, & Trost, 1973; Rolf, 1972, 1976; Rolf & Garnezy, 1974). Indeed, in direct comparison with teacher ratings of adjustment, the peer ratings of third to fifth graders have been reported to be more accurate in the identification of children at risk for adult schizophrenia -- i.e. children with a schizophrenic parent (Rolf, 1972, 1976) -- and have better predicted eventual psychiatric problems (Cowen et al., 1973).

Researchers associated with the Rochester Primary Mental Health Project (Cowen et al., 1973) have extensively collected peer evaluations, using the Class Play procedure (Bower, 1969), as part of a variety of assessment procedures aimed at the detection and prevention of emotional difficulty in school. In a follow-up study, these investigators compared the ability of these measures to predict psychiatric difficulty in adulthood. Defining adult maladjustment as the presence of an individual's name in a county-wide psychiatric registry, Cowen et al. compared the third grade records of children, who as adults sought psychiatric intervention, to a group of matched (i.e. sex, grade, and class) controls. Of the 25 measures of third grade adjustment which were compared, only peer evaluations discriminated between the two groups. Children who as adults sought psychiatric help were far more visible to their peers -- i.e. were those most frequently selected for roles in the Class Play -- and were nominated almost always for negative roles. Teacher ratings, in contrast, failed to discriminate between these two groups. Concluding that measures of peer opinion provide powerful predictive indices of adjustment, Cowen et al.

## Children's Perceptions of Deviance

emphasized that "children, far more sensitively than test data, teacher judgments, etc., 'knew the score' ... they are far more sensitive in identifying 'the real McCoy' " (p 445).

Rolf (1972) similarly found peer evaluations superior to teacher ratings in the identification of children at risk for later psychiatric impairment. Although teacher ratings have discriminated children at risk for adult schizophrenia (i.e. children with a schizophrenic parent) from their low-risk peers (Weintraub, Neale, & Liebert, 1975), peer evaluations were found superior in differentiating such vulnerable children from other groups of overtly deviant children (Rolf, 1972). Indeed, while teacher ratings failed to identify male high risk children, peer evaluations readily discriminated this group at risk from their peers (Rolf, 1972, 1974, 1976).

Despite such evidence of the sensitivity of children to symptoms of impending pathology in their peers, questions have been raised concerning the ability of children to accurately label such deviance. Cowen and his associates have reported that the peer ratings of third grade children, although predictive of adult psychiatric maladjustment, provided a less than satisfactory measure of children's current levels of social and emotional functioning (Cowen, Zax, Izzo, & Trost, 1966; Liem, Cowen, Trost, & Izzo, 1969; Yellott, Liem, & Cowen, 1969; Zax, Cowen, Izzo, & Trost, 1964). According to these investigators, peer ratings did not correspond well with teacher ratings nor with parent ratings. Further, teacher and parent ratings corresponded better than peer ratings with a criterion measure of adjustment status, which was comprised of clinician reports, family



## Children's Perceptions of Deviance

interviews and classroom observations.

In short, these findings suggest that peer evaluations possess high predictive validity when later psychological functioning is used as the criterion, but lack concurrent validity when compared with a variety of adult-derived measures of adjustment. Rolf (1976) has attributed such discrepancies to children's difficulties in labelling deviance in their peers. He suggests that, despite their ability to accurately identify those of their peers who are vulnerable to severe or chronic impairment in adulthood, children may be less adept than adults at labelling all forms of deviance in their classmates.

The issue of the adeptness with which children in comparison to adults label deviance in their peers, however, raises further questions. When we speak of labels for deviance, to what labels are we referring? Judgments concerning the adeptness with which children in comparison to adults label deviance in their peers rest upon an implicit assumption that children employ labels for deviance that are similar to those employed by adults; that is, they share with adults a common perspective regarding deviance in their peers. Such an assumption, however, appears at odds with one of the basic premises underlying the use of peer assessment procedures -- i.e. that child evaluators provide assessment information derived from their own unique perspective (Wiggins & Winder, 1961).

Notwithstanding this premise of the unique perspective of children, investigators have developed assessment instruments for use with child evaluators that simply parallel their adult rater counterparts in terms of

the major factors of childhood deviance being assessed. The question of whether and how children's perceptions of social deviance differ from those of adults, however, has yet to be systematically evaluated. This was the concern of the present investigation. More specifically, the present study focussed on whether adult-derived dimensions of deviance have relevance for child evaluators. Its aim was to examine the organization of children's perceptions of socially deviant behaviour and to ascertain how such organization changes with age.

### Adult Perceptions of Childhood Deviance

Psychological problems in childhood are largely adult-defined. That is, childhood problems are primarily detected by adults -- usually parents or teachers -- and it is typically adult descriptions of the problem that serve to define it (Achenbach, 1980a). As a consequence, most of our knowledge concerning deviant childhood behaviour reflects an adult perspective.

Much research in this area has been directed toward identifying and categorizing patterns of deviant childhood behaviour as revealed in the factor analysis of behaviour ratings provided by teachers, parents, and clinicians. Despite wide variation among such studies -- in terms of raters, rating instruments, subject characteristics, and method of analysis -- there has been remarkable consistency in their major findings. Specifically, two broad independent factors of deviant social functioning have been consistently isolated: one describing an excess or maladaptive expression of social approach behaviour, and a second describing an excess of social

avoidance behaviour. While the labels applied to these factors have varied from study to study, the patterns of behaviour subsumed by each have remained consistent. The first factor (described as Aggression, Conduct Problems, Undercontrolled or Externalizing behaviour) refers to aggressive, acting-out, and attention-seeking behaviours, while the second (described as Social Withdrawal, Personality Problems, Overcontrolled or Internalizing behaviour) refers to shy, anxious, socially withdrawn or socially isolated behaviours. The repeated emergence of these two broad factors across studies has led investigators to conclude that aggression and social withdrawal represent reliable factors underlying deviant behaviour in childhood (see Achenbach, 1980a, 1980b; Achenbach & Edelbrock, 1978; Kohn, 1977; Quay, 1972, 1979; and Ross, 1980 for comprehensive reviews of the adult-rating literature).

The distinction between social approach and social avoidance suggests the role of an active - passive dimension in the structuring of adult perceptions of childhood deviance. Indeed, a number of investigators have provided two-dimensional models of childhood social functioning, derived from adult ratings, that stress the importance of two orthogonal dimensions: one being an active - passive dimension (or a dimension of introversion - extraversion) and the second being a social evaluative dimension which essentially involves judgments concerning the social acceptability of behavior (Becker & Krug, 1964; Kohn, 1977; Kohn & Rosman, 1972; Ross, 1980). The distinction of active vs. passive behaviour applies, therefore, to both socially adaptive and maladaptive behaviour, where aggression represents

## Children's Perceptions of Deviance

behaviour that is both active and socially maladaptive, while social withdrawal represents behaviour that is passive and socially maladaptive.

In view of the apparent ubiquitous nature of aggression and withdrawal it would appear reasonable to conclude that the active - passive and social evaluation dimensions provide a reliable scheme according to which deviant childhood behaviours are organized. Such might be the case. However, as has been noted by a number of investigators (i.e. Kohn & Rosman, 1972; Ross, 1980), a qualifying statement must be added to this conclusion: These dimensions provide reliable categories underlying the organization of adult ratings of childhood deviance. Furthermore, since what has been assessed in such studies has not been actual behaviour, per se, but rather memory-based ratings of behaviour provided by the adult evaluators, these findings may indicate that adult raters reliably categorize deviant childhood behaviours conceptually according to these dimensions. This interpretation derives from findings in the social cognition literature which indicate that perceivers tend to conceptually organize information concerning the behaviours, traits, and other characteristics of others according to abstract conceptual generalizations concerning the probabilistic co-occurrence of such characteristics (cf. Cantor & Mischel, 1977, 1979; Neisser, 1976). That such generalizations are based on experience and, therefore, to some extent reflect reality is undeniable. However, it is plausible that the active - passive and social evaluative dimensions are conceptual dimensions that represent an adult perspective; salient to adult evaluators but perhaps not equally salient nor meaningful to children.

Children's Perceptions of Deviance in their Peers

In contrast to the prolific body of literature pertaining to adult raters' perceptions of deviance in children, considerably less is known concerning children's perceptions of deviance in their peers. As stated earlier, investigators have, for the most part, been content to employ measures with child evaluators that simply parallel their adult-rater counterparts, in terms of their focus on the factors of aggression and withdrawal. Children's perceptions of deviance in their peers, however, appear to differ from those of adults. Young children in particular view deviance from a perspective that is considerably less differentiated than that of older children and adults. Aggression and withdrawal represent components of the perspective of children that are neither as stable nor as well-defined as those underlying the perspectives of adult raters.

Mitchell (1956), for example, in his factor analysis of the peer evaluations of third to fifth grade children on the Guess Who Questionnaire identified clearly-defined factors of aggression (Aggressive Maladjustment) and socially competent behaviour (Social Acceptability), but was unable to identify a well-defined factor of social withdrawal, despite the inclusion of a large number of descriptions of socially withdrawn behaviour in the measure. Rather, the third factor identified by Mitchell represented a poorly-defined fusion of social withdrawal, conduct problems, and peer rejection. This latter factor, labelled Social Isolation, was not, in fact, well differentiated from Aggressive Maladjustment in the ratings of this

group of children.

Similar discrepancies concerning young children's perceptions of aggression and social withdrawal were reported by Rubenstein, Fisher, and Iker (1975). These investigators, in their factor analysis of the ratings of second to sixth grade children on the Peer Rating Scale, found that neither aggression nor withdrawal could be reliably identified and suggested as a possible explanation that perhaps neither factor finds representation in children's stable conceptual schemata.

While it seems that aggression and social withdrawal may not represent well-defined factors underlying young children's ratings of deviance in their peers, this does not appear to be the case with older children. In their factor analysis of the Pupil Evaluation Inventory (PEI), Pekarik, Prinz, Liebert, Weintraub, and Neale (1976) examined the peer ratings of a much broader age range of children, which included children from grades two to nine, and identified clearly-defined factors of Aggression, Social Withdrawal, and Likability/Social Competence. It may be, however, that this difference between the findings of Pekarik et al. and those reported by Mitchell and by Rubenstein et al. relates to differences in the ages of the children in the three studies. The mean age of the children included in Pekarik et al.'s study was greater than in Mitchell's and Rubenstein et al.'s studies. Thus, the well defined factors of aggression and withdrawal reported by Pekarik et al. may reflect the perspectives of the older children in their study. This possibility finds support in recent findings reported by Ledingham (1981) from a study involving the peer ratings on the PEI of

## Children's Perceptions of Deviance

over 4000 first, fourth, and seventh grade children. Ledingham observed a significant age-related shift in the joint distribution of children's ratings of aggression and social withdrawal in their peers. First graders were inclined to attribute both aggressive and withdrawn behaviours to the same peers, rating a significantly greater than the expected percentage of their peers as high on both factors, while rating few peers as high on either factor alone. This pattern was also evident, though to a lesser degree, in fourth graders. Grade seven children, however, demonstrated a reversal in this pattern. At this grade relatively few children received high ratings on both factors, with many being rated instead as either highly aggressive or highly withdrawn.

In short, this evidence suggests that aggression and social withdrawal become increasingly distinct and better-defined components of children's perceptions of deviance in their peers with increasing age. Although perhaps adept at discriminating deviant, socially unacceptable behaviour from nondeviant, socially acceptable behaviour, young children may be less adept at (or perhaps less concerned with) discriminating between specific types of deviant behaviour in their peers. It may be that at young ages children tend to over-rely upon the social evaluative dimension in structuring their perceptions of the social behaviour of their peers, placing little importance on the active - passive dimension which appears central to the perceptions of adults.

This assumption finds some support in the literature. The findings of a variety of studies suggest that undifferentiated evaluative judgments tend

to dominate the processes of social perception in young children. In a series of studies examining third grade children's perceptions of aggression using the Peer Rating Index of Aggression (Walder, Abelson, Eron, Banta, & Láulicht, 1961), investigators associated with the Rip Van Winkle project have observed consistently the lack of a clear distinction between aggression and other forms of nonaggressive socially undesirable behaviour in young children's ratings of their peers (Banta & Walder, 1961; Eron, Walder, & Lefkowitz, 1971; Walder et al., 1961). Such does not appear to be the case, however, for older raters. Minturn and Lewis (1968) noted that older children's perceptions of aggression become increasingly focussed and increasingly distinct from the broader definition of social undesirability employed by young children.

Yarrow and Campbell (1963) also observed the centrality of a social evaluative dimension to children's social judgments. These investigators obtained descriptions of peers from a group of boys aged 8 to 13 years and observed that such descriptions were dominated by broad evaluative judgments. The most highly organized and systematic descriptions were provided for peers who were either highly disliked or highly popular. Disliked peers were described almost exclusively as aggressive, while popular peers were most frequently described as friendly or affiliative. Little reference to socially withdrawn behaviour was made in these peer descriptions. Interestingly, these highly organized descriptions were also quite discrepant with observed behaviour, leading these investigators to conclude that children evaluate their peers largely on the basis of their own



affective reactions to them, with little regard for their actual behaviour. The unidimensional, affectively polarized nature of young children's perceptions of others has also been noted by Livesley and Bromley (1973) in their studies of person perception in children.

Cole and Pennington (1976) reported similar findings from an analysis of children's self-generated descriptions of deviance in their classmates. These investigators observed a significant age-related shift in the content of such descriptions, from egocentric, narrowly-based evaluative judgments of social deviance in first graders, to increasingly normative judgments in seventh graders. Despite these differences, children's perceptions of deviance continued to focus on aggression until beyond the seventh grade, although aggression was perceived differently at different grade levels. Only at the eleventh grade did children tend to view social withdrawal as a distinctive class of socially deviant behaviours, as do adults. Cole and Pennington suggest that at this age children's descriptions reflect a view of deviance defined less in terms of grossly observable undesirable behaviours, as was the view of children in lower grades, and more in terms of deviance as a failure to fit in with the group as a whole.

Similar age related trends have been reported in several studies that have examined conceptual dimensions underlying children's internal representation of adjective trait descriptors. Young children have been found to focus primarily on an evaluative dimension that distinguishes good from bad descriptors and that is strongly polarized (Ervin & Foster, 1966; Gordon & Williams, 1973; Saltz, Dunin-Markiewicz, & Rourke, 1975; Saltz &

## Children's Perceptions of Deviance

Hamilton, 1968; Saltz & Medow, 1971). As age increases, however, this unidimensional perspective gives way to a more differentiated conceptual representation of such descriptors (Saltz et al., 1975).

In terms of children's ratings of deviance in their peers, the literature indicates that children may more accurately rate aggression than withdrawal. Studies that have compared peer ratings with teacher ratings for both aggression and withdrawal have indicated higher agreement for ratings of aggression than for withdrawal (Ledingham, Younger, Schwartzman, & Bergeron, 1982; Pekarik et al., 1976). While such differential levels of agreement could reflect differences in the perceptual salience of these classes of behaviour, as Ledingham et al. (1976) have suggested, they may also reflect the greater meaningfulness of aggression as a category of deviance in the perspectives of children. If this were the case, one might expect the degree of correspondence between peer and teacher ratings of social withdrawal to increase with age, given the greater importance of social withdrawal in the perceptions of older children (Coie & Pennington, 1976). There is some evidence supporting this notion. Whereas age has been found unrelated to the high agreement between peer and teacher ratings of aggression (Ledingham et al., 1982; Pekarik et al., 1976; Wiggins & Winder, 1961), for withdrawal it may play a more important role. Pekarik et al. (1976) report that ratings of withdrawal of a group of sixth to ninth grade children corresponded better with teacher ratings than did the ratings of a group of first to fifth grade children. A similar effect, however, was not observed by Ledingham et al. (1982). Regardless

## Children's Perceptions of Deviance

of grade level, peer and teacher ratings corresponded significantly more poorly for social withdrawal than for aggression. This discrepancy between the findings of Ledingham et al. (1982) and those of Pekarik et al. (1976) may reflect differences in the ages of the two groups of subjects: The oldest group of children in Ledingham et al.'s study (seventh graders) were younger than those of Pekarik et al. (ninth graders). Nevertheless, peer ratings of aggression do appear higher in concurrent validity than peer ratings of withdrawal, though the role of age in the validity of children's ratings of withdrawal is not clear.

A number of observational studies also indicate the validity of peer ratings of aggression. Winder and Wiggins (1964) report that aggressive playground behaviour of a group of fourth to sixth grade boys corresponded well with their peer-rated levels of aggression on the Peer Nomination Inventory (Wiggins & Winder, 1961). Similarly, peer ratings of aggression provided by third grade children on the Peer Rating Index of Aggression (Walder et al., 1961) have accurately predicted the amount of peer-directed punishment the children gave in a laboratory situation (Peterson, 1971; Williams, Meyer, Eron, & Semler, 1967).

While no similar observational studies of the validity of peer ratings of social withdrawal have been reported, there exists a limited body of evidence which suggests that children may nominate peers less consistently for withdrawal items than for aggression items. Pekarik et al. (1976) reported lower inter-rater agreement for peer ratings of withdrawal than for aggression, comparing the ratings of male and female raters.

## Children's Perceptions of Deviance

Moskowitz, Schwartzman, and Ledingham (in press) conducted a series of analyses examining the reliability of first, fourth, and seventh graders' peer ratings of aggression and withdrawal, and reported similar differences but only for children at lower grades. Examination of the internal consistency of the children's ratings of aggression and withdrawal revealed high internal consistency for both scales at the fourth and seventh grades. At the first grade, however, while aggression was high in internal consistency, social withdrawal was found to be significantly lower. A similar grade related difference was observed in the analysis of the temporal stability of the children's ratings across a three year period. At all three grades ratings of aggression showed high stability across the three years. High stability coefficients were also reported for withdrawal, but only for ratings of fourth and seventh graders. First graders' ratings of withdrawal were significantly lower in temporal stability than those of fourth and seventh graders.

How aggression and withdrawal are perceived by children may depend on how well these classes of behaviour fit the conceptual structure underlying children's social perceptions at different ages. Aggression, perhaps because of its early and strongly reinforced association with social disapproval, may be readily described by the evaluative dimension which is central to the perspective of young children. Social withdrawal, in contrast, may be less easily categorized by a dimension of social evaluation. Although certain withdrawn behaviours are no doubt viewed more negatively than are others, there is no evidence to indicate that

## Children's Perceptions of Deviance

social withdrawal is a category of behaviour that is regarded negatively by children. In fact, available evidence suggests that withdrawal falls between the extreme positive and negative poles of a social evaluative dimension, with children who display such behaviour being neither rejected by nor highly popular with their peers. Instead, socially withdrawn children may assume a sociometric status of peer neglect (Cole, Dodge, & Coppotelli, 1982). At young ages, therefore, when children's perceptions may be dominated by evaluative judgments, social withdrawal may represent a facet of their perceptions which is neither well-defined nor highly meaningful. Thus, age may play an important role in how children perceive deviance in their peers.

### Overview of the Present Investigation

The present investigation was designed specifically to examine the notion that the equivalence of children's and adults' perceptions of childhood deviance is age-related. Its major thesis was that the categorizing of childhood deviance according to factors of aggression and withdrawal represents an adult perspective that may not be fully shared by children, particularly those of young ages. This investigation, therefore, examined: (a) age related changes in how children view and categorize aggressive and socially withdrawn forms of deviant behaviour, (b) how these categories of deviant behaviour are related in children's perceptions to socially competent (i.e. likable or popular) behaviours, and (c) along what dimensions children tend to organize their perceptions of socially deviant and competent

behaviours.

The Pupil Evaluation Inventory

In order to examine age-related shifts in children's perceptions of aggression and social withdrawal, this investigation focussed on these factors as measured by the Pupil Evaluation Inventory (PEI). This measure was considered advantageous for a number of reasons. First, the PEI is the most recently developed of a number of peer nomination measures of social functioning in children and was developed using items drawn from the more robust existing measures. Second, whereas alternative peer evaluation measures have been designed for use with restricted samples of children in terms of age or sex (e.g. Winder & Wiggins, 1961; Walder et al., 1961; Prinz, Swan, Liebert, Weintraub, & Neale, 1968), the PEI has been developed for broad application with children of elementary school ages. Finally, this measure was of particular interest because it has been used as the primary means of identifying children vulnerable to major psychopathological disturbance in the Concordia High Risk Project (cf. Ledingham, 1981). Further investigation of this measure was therefore directly relevant to our study of peer-selected socially deviant children.

The PEI is a 34-item peer nomination measure consisting of 20 aggressive items, nine social withdrawal items, and five social competence items (referred to as likability). Aggressive items include behaviours such as: "Those who are mean and cruel to other children", "Those who bother others when they're trying to work", and "Those who play the clown and get

others to laugh". Withdrawal items include such behaviours as: "Those who are too shy to make friends easily", "Those whose feelings are easily hurt", and "Those who often don't want to play". Likability includes items such as: "Those who are especially nice", "Those who help others", and "Those who always understand things". See Appendix A for the complete version of the Pupil Evaluation Inventory.

#### Multidimensional Scaling

Because this study was concerned with dimensions and categories of behaviour underlying children's perceptions of social deviance, multidimensional scaling (Kruskal & Wish, 1978) was selected as its primary investigative tool. Multidimensional scaling is essentially a geometric model which is used to uncover the structure or organization underlying measures of the similarity of sets of stimuli. This procedure has gained popularity in studies of social perception because of its ability to represent indices of the perceived similarity among sets of stimuli as measures of distance between points in Euclidian space (Kruskal & Wish, 1978; Schiffman, Reynolds, & Young, 1981; Shepard, Romney, & Nerlove, 1972). Multidimensional scaling transforms measures of interstimulus similarity to measures of distance between points in space, locating the stimuli relative to one another such that the similarity of each stimulus to every other stimulus is best taken into account. Thus, stimuli that are perceived as very similar are located in close proximity in the spacial representation while those that are perceived as very different are located far from one

another. Using this procedure, it is possible, therefore, to "map out" the conceptual interrelationships among the stimuli of concern. This procedure was considered to be of particular value in the present investigation because it could provide a means of examining the cohesiveness and distinctness of aggression and withdrawal as categories of deviant social behaviour and also permitted the assessment of how these categories of social deviance relate to socially competent behaviours.

The multidimensional scaling algorithm employed in each of the studies in this investigation was Kruskal, Young, and Seery's (1978) KYST-2A. While both metric and nonmetric multidimensional scaling algorithms are available with this program, the nonmetric algorithm was selected as the more conservative approach. The difference between metric and nonmetric approaches lies mainly in the assumptions made concerning the transformation of the similarity measures between items to measures of distance between points in space. Metric multidimensional scaling algorithms assume that distance can be considered a function of similarity using a polynomial regression formula. Nonmetric algorithms assume only that distance is a function of the ordinal properties of the similarity measure, using simply a monotonic regression equation to convert measures of similarity to distance. In this case, KYST calculates a measure of "badness of fit", or error, referred to as Kruskal's stress, which represents the discrepancy between the distance measures produced and the actual similarity measures from which the distance measures were derived.



Neighbourhood and Dimensional Interpretations

There are a variety of ways to interpret multidimensional scaling representations. In the present series of studies where the concern was with how children categorize their perceptions of aggressive and withdrawn behaviour, and along what dimensions they differentiate these classes of deviant behaviour, two approaches to interpretation were employed. The first, described by Kruskal and Wish (1978) as the "neighbourhood interpretation" looks for items that tend to cluster in close proximity in the spacial representation. Items that tend to cluster are perceived as very similar and are, therefore, assumed to share some common characteristic that underlies their similarity. The neighbourhood approach to interpreting multidimensional scaling representations attempts to identify the characteristics shared by clusters of items, under the assumption that such characteristics may describe important conceptual categories.

In the present investigation, the use of the neighbourhood approach involved not only attempting to identify empirical clusters of similar behaviours but also examining the cohesiveness of categories of aggressive and socially withdrawn behaviours. Category cohesiveness was examined using a modified version of Homa, Rhoads, and Chambliss' (1979) measure of Structure Ratios. The Structure Ratio is a means for assessing the degree of category differentiation in multidimensional scaling solutions where the items belong to a number of a priori categories: in this case the a priori categories of aggression, social withdrawal, and likability (or socially

competent behaviours). The structure ratio is a value computed for each item, that represents its mean distance from all items that are members of its own category divided by its distance from all items that are members of other categories. In the present series of studies a modified structure ratio was employed because of differing numbers of behaviours in the categories that were measured. All three categories of items were weighted equally in computing structure ratios. Thus, the structure ratio for any item represented its mean distance from all items that were members of its own category, divided by the average of its mean distance from each of the other two categories of items. Thus, for example, the structure ratio for a particular aggression item represented its mean distance from all other aggression items divided by the average of its mean distance from all withdrawal items and from all likability items. Because the structure ratio is essentially a ratio of within- divided by between-category distances, low structure ratios indicate highly cohesive categories of items that are distinct from one another while high structure ratios indicate the opposite.

The interpretation of multidimensional scaling representations, however, involves more than simply identifying clusters of similar items. Items that are located far from one another in the representation are also of interest, as these items are perceived as very different. In examining items that are perceived as very different, the attempt is made to identify characteristics that differentiate such items. Such characteristics, if they differentiate between many items may be considered dimensions with

## Children's Perceptions of Deviance

respect to which individuals tend to organize their perceptions of the items. Because this investigation was concerned with the age related emergence of an active - passive dimension and its relation to a social evaluative dimension in children's perceptions of social deviance, two-dimensional multidimensional scaling representations were examined in each study.

### Design of the Investigation

Four studies were conducted to examine age related changes in how children view and organize their perceptions of socially deviant behaviour. Study 1 examined directly for changes in how children view and report on deviant behaviour displayed by their peers, by assessing the structure underlying first, fourth, and seventh grade children's actual ratings of their peers. Multidimensional scaling was used to elucidate the structure underlying the children's peer ratings. Based on the findings of the studies reviewed earlier it was predicted that the structure underlying children's ratings of their peers would demonstrate a shift from a nearly unidimensional organization centering on the evaluative dimension at the first grade, to an increasingly differentiated structure which, by the seventh grade, would approximate the adult emphasis on both the evaluative and active - passive dimensions. It was further predicted that while aggression and likability, because of their clear relation to a social evaluative dimension, would comprise cohesive and distinct categories of items underlying children's ratings regardless of grade, the cohesiveness of the

category of social withdrawal items would increase with grade, reflecting the increasing importance of the active - passive dimension.

Not only did the age of the child raters vary in Study 1, however, but also the age of those rated. As a consequence, it was not possible to attribute conclusively changes observed as a function of grade level to age-related changes in the organization of the raters' perceptions (the Age of Rater Hypothesis). In order to ascertain whether such age-related changes do indeed reflect rater- rather than ratee-specific effects, Study 2 teased apart rater and ratee age-effects, by holding age of rater constant while allowing age of the children rated to vary. Teacher ratings of children in the same three grades using the same assessment instrument were examined. Support of the Age of Rater hypothesis required evidence of no shift in the raters' perceptions as a function of grade.

Study 3 examined the question of whether age related differences in how children view deviance in their peers reflect developmental changes in how children categorize deviant behaviour at a conceptual level. This study examined the organization of children's beliefs and expectations concerning the co-occurrence of behaviour. First, fourth, and seventh grade children participating in this study were presented with 16 hypothetical children, each described as possessing one particular behaviour from the PEI. The children evaluated the likelihood that each of these 16 standard stimulus children might display each of the remaining 15 behaviours from the PEI. If, as predicted, changes in the manner with which children evaluate aggressive and withdrawn behaviour in their peers are the result of changes

## Children's Perceptions of Deviance

in how they conceptually categorize such behaviour, then a parallel shift in the structure of their beliefs concerning the co-occurrence of behaviour should be observed.

Finally, Study 4 evaluated further the contribution of age of rater differences in the organization of children's ratings of aggression and withdrawal. This study examined first graders' ratings of seventh grade children and seventh graders' ratings of first grade children. It was predicted that first graders' ratings would remain largely unidimensional in organization even when rating older children, while those of seventh graders' would remain two dimensional even when rating first grade children.

STUDY 1

Age-Related Changes in the Organization of Children's  
Ratings of Aggression, Withdrawal, and Likability in their Peers

The literature reviewed in the introduction to this investigation suggests that children's view of deviance in their peers may be age related. Aggression and withdrawal appear to become increasingly independent categories of deviance underlying children's ratings with increasing age (Ledingham, 1981). However, the roles played by these two factors in the organization of children's ratings at different ages are less clear. The lack of a distinction between aggression and withdrawal in young children's ratings of their peers could be viewed as evidence indicating that perhaps neither category is well-represented in young children's more stable conceptual schemata (Rubenstein et al., 1975). On the other hand, several studies have indicated that aggression may be a more salient category of deviance for children than social withdrawal (Cole & Pennington, 1976; Mitchell, 1956; Yarrow & Campbell, 1963). How these two categories of deviance are perceived by children may relate to the relative importance of the active - passive and social evaluative dimensions in the organization of children's social perception at different ages.

This study was designed, therefore, to clarify further the question of age related changes in children's perceptions of aggressive and socially

## Children's Perceptions of Deviance

withdrawn behaviours, as well as socially competent behaviours (likability) displayed by their peers. It examined the organization of first, fourth, and seventh grade children's ratings of these three categories of social behaviour in their peers to determine: (a) how cohesive and distinct these three categories of aggressive, socially withdrawn, and socially competent behaviours are as categories underlying children's ratings of their peers at different ages, and (b) the relative importance of the active - passive and social evaluative dimensions in the structuring of children's ratings of deviance in their peers.

### METHOD

#### Subjects

Subjects in this study consisted of students in 13 first grade classes, 13 fourth grade classes, and 11 seventh grade classes, for a total of 326 first graders (159 boys and 167 girls), 356 fourth graders (176 boys and 180 girls), and 298 seventh graders (151 boys and 147 girls). All children were French speaking students attending Montreal area schools.

#### Materials

All children completed a French translation of the PEI. As described earlier, this 34-item peer nomination instrument consists of 20 items describing attention-seeking behaviours, conduct problems, and aggressive

## Children's Perceptions of Deviance

behaviours (Aggression), nine items describing shy, anxious, or socially withdrawn behaviours (Social Withdrawal), and five items describing popularity and socially competent behaviours (Likability). First graders completed the abbreviated 16-item version of the measure designed for use with young children (cf. Pekarik et al., 1976), which consists of eight aggression items, six social withdrawal items, and two likability items. (See Appendix B for the abbreviated version of the PEI).

### Procedure

The PEI was administered in group format to one class at a time. The children were instructed to nominate up to four of their peers who they felt were best described by each of the items on the measure. To control for possible sex differences in terms of children rated for the different categories of behaviour, the measure was administered twice within one session: on the first administration boys were rated by all classmates, while girls were rated on the second administration.

### Assessment of Inter-Item Similarity

Because the concern of this study was with the raters' perceptions of aggressive, withdrawn, and likable behaviours in their peers, examination of the children's ratings focused on patterns in the ratings rather than on their relevance to a particular stimulus child. In order to examine the interrelationships among the items an index of the perceived similarity



## Children's Perceptions of Deviance

among pairs of items was derived by calculating the frequency with which pairs of items were associated in the nominations provided by a particular rater, for all peers evaluated by that rater. Thus, for each rater, the number of peers receiving concurrent nominations on both items for each of all possible pairs of items was computed. These measures of concurrent nominations were then summed across all raters at each grade level and converted to a percentage of the total number of nominations for each item in a particular pair. This was done to control for differing numbers of children nominated for each item. The resultant indices of inter-item similarity were then analyzed using Kruskal, Young, and Seery's (1978) KYST-2A multidimensional scaling algorithm.

### Assessment of Category Cohesiveness

From the results of the multidimensional scaling analyses indices of the cohesiveness and distinctness of the three categories of items were obtained by computing modified structure ratios for all items. While simple visual examination of a multidimensional scaling solution provides the investigator with some feel of how distinct and cohesive such categories are, computing structure ratios for all items within each category provides a quantitative index of category cohesiveness and distinctness which can be used in subsequent analyses. Structure ratios were computed separately at each of the three grade levels for all items subsumed by the aggression factor, the withdrawal factor, and the likability factor.

RESULTS AND DISCUSSION

Multidimensional Scaling Analyses

Figure 1 represents the two-dimensional representations of the organization of the PEI items at grades one, four, and seven (Kruskal's stress = .087, .080, and .093 for first, fourth, and seventh grades respectively). These representations reveal a clear grade-related shift in the organization of the children's ratings of aggression, withdrawal, and likability in their peers. First graders' ratings were organized largely with respect to a single dimension that distinguished likable behaviours from most of the remaining deviant behaviours (i.e. a social evaluative dimension). Aggression items comprised a cohesive category at one pole of this dimension while likability items comprised an equally cohesive category at the opposite pole. Social withdrawal, in contrast, did not represent a well-defined category of deviance in children's ratings at this grade, being considerably less cohesive than the other two categories and distributed between the two poles of the evaluative dimension. Although there was some evidence of a second dimension at the first grade, its role in the organization of the children's ratings was of considerably less importance in the first grade than in the fourth and seventh grades.

A second dimension that distinguished withdrawn from aggressive forms of deviant behaviour (i.e. an active - passive dimension) assumed increasing importance with increasing grade level. As can be seen in Figure 1, withdrawal items became increasingly distinct from aggression and likability

items, and increasingly cohesive as a category of behaviours as grade level increased. At the fourth grade withdrawal items were considerably more distinct from aggression items although they remained less cohesive than either aggression or likability. The greatest shift in the organization of the items occurred at the seventh grade where all three categories of items clustered into cohesive groups that were quite distinct from one another. At this grade the active - passive dimension appeared to have taken on greater importance than the social evaluative dimension.

#### Structure Ratios

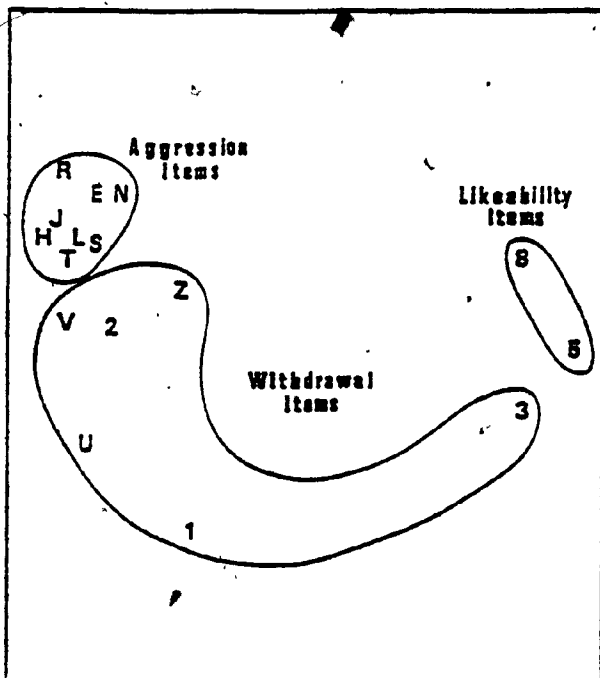
Figure 2 represents the mean structure ratios for the three categories of items at the three grade levels. Examination of these structure ratios provides clear indication of the grade-related shift in the cohesiveness of social withdrawal. While the mean structure ratios of aggression and likability items remained low across all three grades, that of social withdrawal decreased considerably across grade level. Grade-related changes in the mean structure ratio for aggression and withdrawal items were examined by means of a 3(Grade) X 2(Category of Item) ANOVA where the structure ratio of each particular item served as the dependent measure. (Because of the small number of likability items involved in the ratings this category of items was not included in the analysis). Initial analysis revealed significant heterogeneity of variance in the structure ratios, Barlett-Box  $F(8, 1207)=14.76, p<.01$ . Logarithmic transformation of the structure ratios ensured homogeneity of variance, Barlett-Box

$F(8,1207)=1.54$ ,  $p=.139$  (see Table 1 for means and standard deviations of the transformed scores). Results of the ANOVA revealed a significant main effect of Grade,  $F(2, 66)=10.88$ ,  $p<.001$ ; a significant effect of Category of Item,  $F(1, 66)=206.93$ ,  $p<.001$ ; and a significant Grade by Category of Item interaction,  $F(2, 66)=43.18$ ,  $p<.001$ . Examination of the interaction using Scheffé tests ( $p=.05$ ) indicated no significant change in mean structure ratio for aggression items across grade. Social withdrawal items, in contrast, were significantly greater in mean structure ratio than aggression items at the first and fourth but not at the seventh grades. Further, the mean structure ratio for social withdrawal items declined significantly from the first to seventh grade and from the fourth to seventh grade.

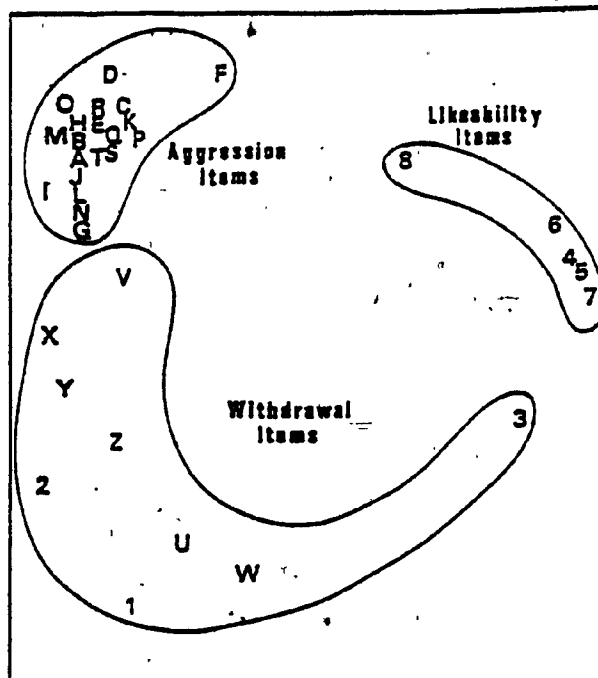
#### Summary

The results of this study revealed a clear grade-related shift in the organization of children's ratings of their classmates. As had been predicted, young children's perceptions were dominated by a social evaluative dimension. Aggression items and likability items were well-described by this dimension. In contrast, social withdrawal represented a poorly-described category of deviance for young children, but became more cohesive and distinct from other groupings of items as the active-passive dimension assumed more importance with increasing grade.

Grade 1



Grade 4



AGGRESSION ITEMS

- A. Can't sit still
- B. Get others into trouble
- C. Act stuck-up
- D. Play the clown
- E. Start fights
- F. Tell others what to do
- G. Get into trouble
- H. Make fun of others
- I. Do strange things
- J. Bother others
- K. Get mad easily
- L. Don't pay attention to the teacher
- M. Rude to teacher
- N. Act like babies
- O. Mean and cruel
- P. Give dirty looks
- Q. Show-off
- R. Say can beat up peers
- S. Exaggerate
- T. Complain

WITHDRAWAL ITEMS

- U. Too shy to make friends
- V. Feelings easily hurt
- W. Never have a good time
- X. Upset when called on in class
- Y. Chosen last for activities
- Z. Have few friends
- 1. Unhappy or sad
- 2. Don't want to play
- 3. Not noticed much

LIKEABILITY ITEMS

- 4. Help others
- 5. Liked by everyone
- 6. Best friend
- 7. Especially nice
- 8. Always seem to understand things

Grade 7

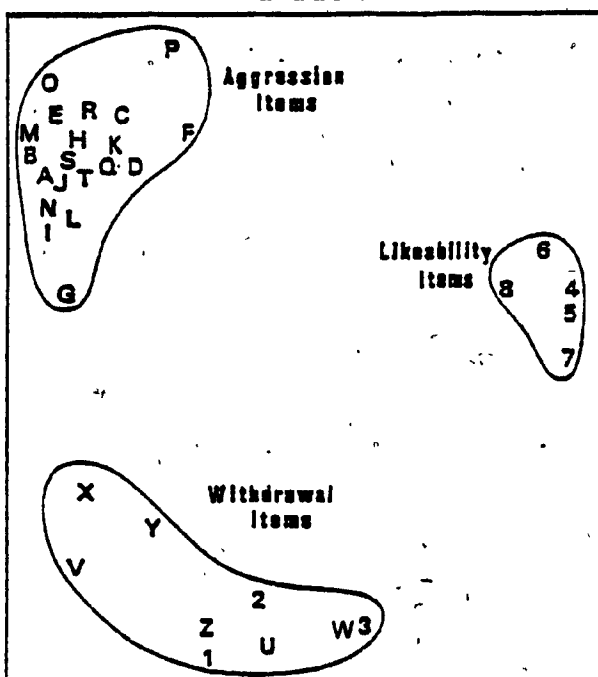


Figure 1. Two-dimensional representations of the similarity among the PEI items as derived from the children's peer ratings.

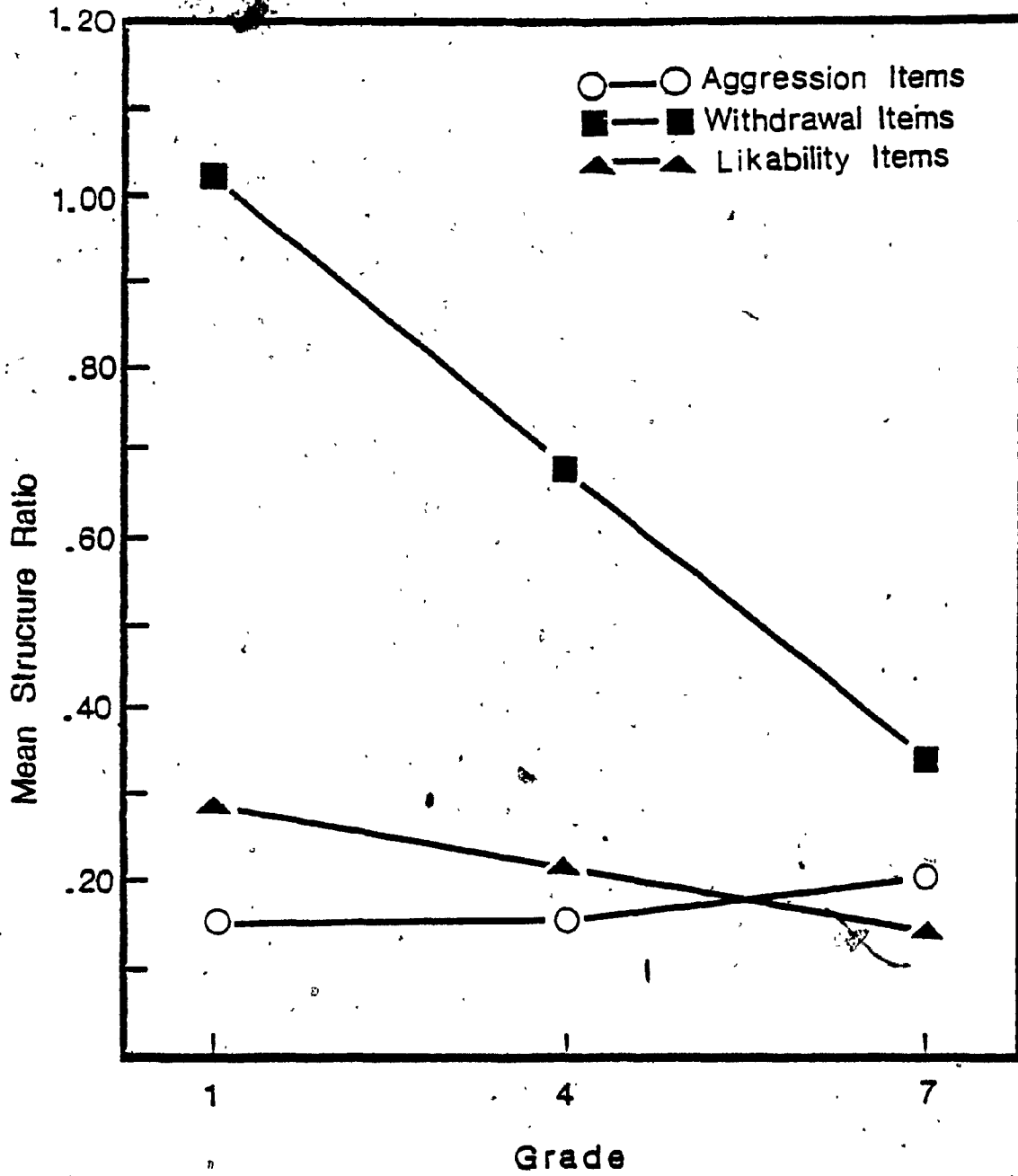


Figure 2. Mean structure ratios for the three categories of items as derived from the children's peer ratings.

Children's Perceptions of Deviance

Table 1  
Means and Standard Deviations of Log-transformed Structure Ratios  
Derived from Children's Peer Ratings of Aggression, Withdrawal, and  
Likability

Grade		Category of Items		
		Aggression	Withdrawal	Likability
1	M	-.803	.012	-.533
	SD	.079	.196	.037
4	M	-.852	-.209	-.651
	SD	.132	.202	.245
7	M	-.734	-.490	-.839
	SD	.140	.122	.104

STUDY 2

Grade Related Changes in the Structure of  
Teacher Ratings of Aggression, Withdrawal, and Likability

Study 1 revealed a clear grade related shift in the organization underlying children's ratings of aggression, withdrawal, and likability in their peers. However, while the grade related shift itself was clear, whether it actually represents changes in the children's perceptions of these three categories of social behaviour in their peers is less clear. Since both the ages of the child raters and the ages of the children who were rated varied systematically across grade levels, two possible explanations for differences across grades must be considered: The Age of Rater hypothesis -- which ascribes the shift to changes in how children perceive these categories of deviant behaviour; and the Age of Ratee hypothesis -- which attributes the shift to changes in the behaviour of the children who were rated. The present study examined the Age of Ratee hypothesis. In this study, age of rater differences were held constant at the three grade levels, thus allowing age of ratee differences to be assessed. Holding age of rater effects constant involved employing raters whose ages did not systematically vary across the three grade levels. Teachers were selected as the most appropriate raters for such a study in that their ages do not systematically vary across grade level and their opportunity to observe behaviour is



reasonably comparable to that of children. Thus, teacher ratings of first, fourth, and seventh grade children were collected on the PEI and analyzed in the same manner as that employed with the peer ratings in Study 1.

If the age related shift in the organization of the children's peer ratings found in Study 1 accurately reflected differences in the behaviour displayed by the children who were rated (the Age of Ratee hypothesis) then similar shifts should be observed across grade level in the organization of teacher ratings. If, however, the change observed in Study 1 reflected age related differences in how the peer raters viewed and reported on deviant behaviour in their classmates (the Age of Rater hypothesis), then no similar changes should be observed across grade level in the organization underlying the teacher ratings.

## METHOD

### Subjects

Forty teachers from each of grades one, four, and seven served as raters in this study. At the first grade there were 39 female and one male teachers, at the fourth grade 33 female and seven males, and at the seventh grade 15 female and 25 male teachers. All were French speaking teachers of Montreal area schools. The teachers were paid \$10 for their participation in the study, and all received a summary of the results of this portion of the research project.

Materials

As in Study 1 all teachers completed a French translation of the PEI. In order to approximate the procedure employed with the peer ratings, first grade teachers completed the abbreviated 16-item version of the measure.

Procedure

The procedure paralleled that employed in Study 1 with the peer ratings. Teachers were instructed to nominate up to four of the children in their class who were best described by each item on the PEI. As in Study 1, two administrations of the measure were involved: On the first only boys were rated, and on the second girls were rated. Special instructions were provided for one likability item -- "Those who are your best friends". Given the improbability of a child being the teacher's best friend, the teachers were instructed to respond to this item as if they were a student in the class.

Assessment of Inter-Item Similarity

Measures of similarity among all pairs of PEI items were computed using the identical procedure as in Study 1. Thus inter-item similarity was again defined in terms of the number of children receiving co-nominations for pairs of items, controlling for number of children nominated for each item in the pair. These measures of inter-item similarity were analyzed

separately for each grade, using Kruskal, Young and Seery's (1978) KYST-2A multidimensional scaling algorithm.

#### Assessment of Category Cohesiveness

As in Study 1, cohesiveness of the aggression, withdrawal, and likability categories of items at the three grade levels was assessed using the modified form of Homa, Rhoads, and Chambliss' (1979) Structure Ratios.

### RESULTS AND DISCUSSION

#### Multidimensional Scaling Analyses

Figure 3 illustrates the 2-dimensional representation of the similarity among the PEI items as derived from teacher ratings at the three grade levels. (Kruskal's stress = .079, .099, and .092, for grades one, four, and seven, respectively). Unlike the representations derived from peer ratings in Study 1, there was no evidence of a grade related shift in these teacher ratings. At all grade levels, teacher ratings of aggression, withdrawal, and likability were organized with equal respect to both social evaluative and active - passive dimensions. Further, all three categories of items clustered into categories that were distinct from one another, regardless of grade level. Indeed, with the exception of one social withdrawal item which at the fourth and seventh grades did not appear part of the withdrawal cluster, social withdrawal items clustered into a cohesive

category at all grades. This withdrawal item -- "Those whose feelings are easily hurt" -- appeared more akin in teacher perceptions to the category of 'aggressive items.

### Structure Ratios

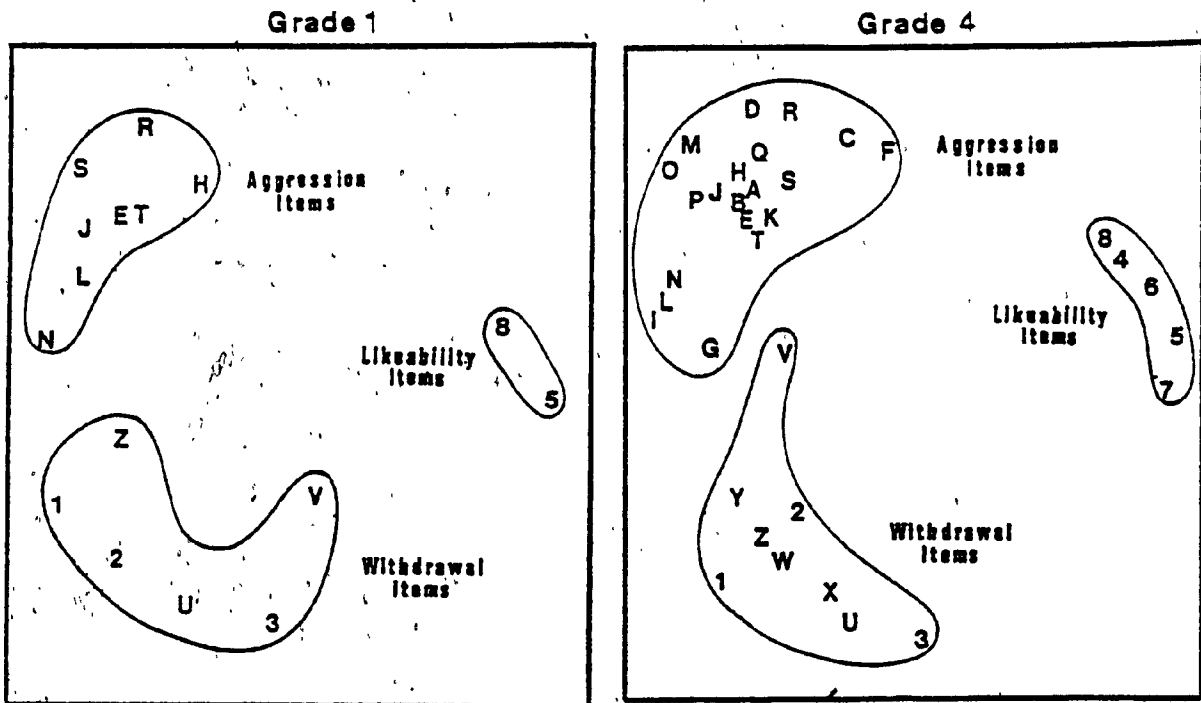
Figure 4 represents the modified structure ratios for aggression, withdrawal, and likability items at the three grade levels. The structure ratios for aggression and withdrawal items were examined using a 3(Grade Level) X 2(Category of Item) ANOVA, using each item's structure ratio as the dependent measure. As in Study 1, logarithmic transformation of the structure ratios ensured homogeneity of variance, Barlett-Box  $F(8, 1207)=.94$ ,  $p=.481$ , (see Table 2 for mean transformed structure ratios). Results of the ANOVA indicated only a main effect of Category of Item  $F(1, 66)=37.31$ ,  $p<.001$ . Neither the main effect of Grade,  $F(2, 66)=1.79$ ,  $p=.175$ , nor the Grade by Category of Item interaction,  $F(2, 66)=.62$ ,  $p=.544$ , were significant. Examination of the main effect of category of items revealed that the mean structure ratio of social withdrawal items, collapsed across grade level, was greater than that of aggression items.

### Summary

These results indicate a clear difference between teacher ratings of childhood deviance and the peer ratings examined in Study 1. The lack of a significant grade effect and especially the lack of a significant grade by

## Children's Perceptions of Deviance

category of items interaction in teacher ratings clearly distinguishes teacher ratings from peer ratings. This finding goes counter to the Age of Ratee hypothesis and provides support for the Age of Rater hypothesis as an explanation for the age related shift in the organization of the peer ratings revealed in Study 1.



- |                                       |                                     |
|---------------------------------------|-------------------------------------|
| <b>AGGRESSION ITEMS</b>               | <b>WITHDRAWAL ITEMS</b>             |
| A. Can't sit still                    | U. Too shy to make friends          |
| B. Get others into trouble            | V. Feelings easily hurt             |
| C. Act stuck-up                       | W. Never have a good time           |
| D. Play the clown                     | X. Upset when called on in class    |
| E. Start fights                       | Y. Chosen last for activities       |
| F. Tell others what to do             | Z. Have few friends                 |
| G. Get into trouble                   | 1. Unhappy or sad                   |
| H. Make fun of others                 | 2. Don't want to play               |
| I. Do strange things                  | 3. Not noticed much                 |
| J. Bother others                      |                                     |
| K. Get mad easily                     |                                     |
| L. Don't pay attention to the teacher |                                     |
| M. Rude to teacher                    |                                     |
| N. Act like babies                    |                                     |
| O. Mean and cruel                     | <b>LIKEABILITY ITEMS</b>            |
| P. Give dirty looks                   | 4. Help others                      |
| Q. Show-off                           | 5. Liked by everyone                |
| R. Say can beat up peers              | 6. Best friend                      |
| S. Exaggerate                         | 7. Especially nice                  |
| T. Complain                           | 8. Always seem to understand things |

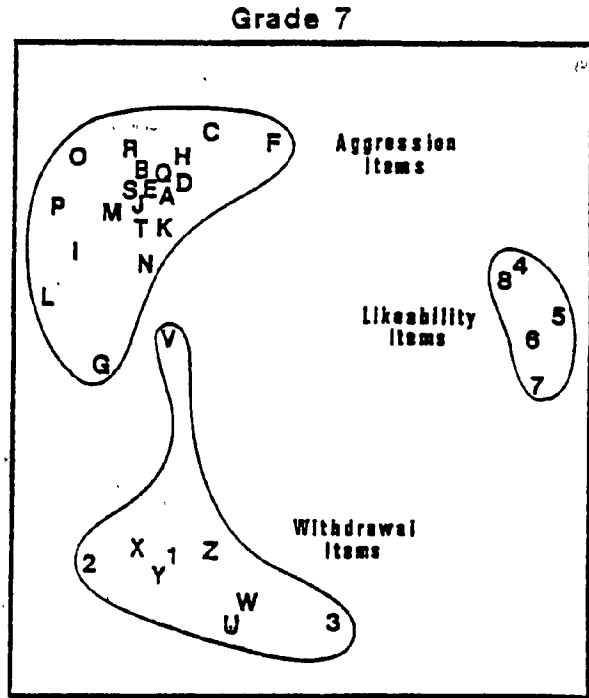
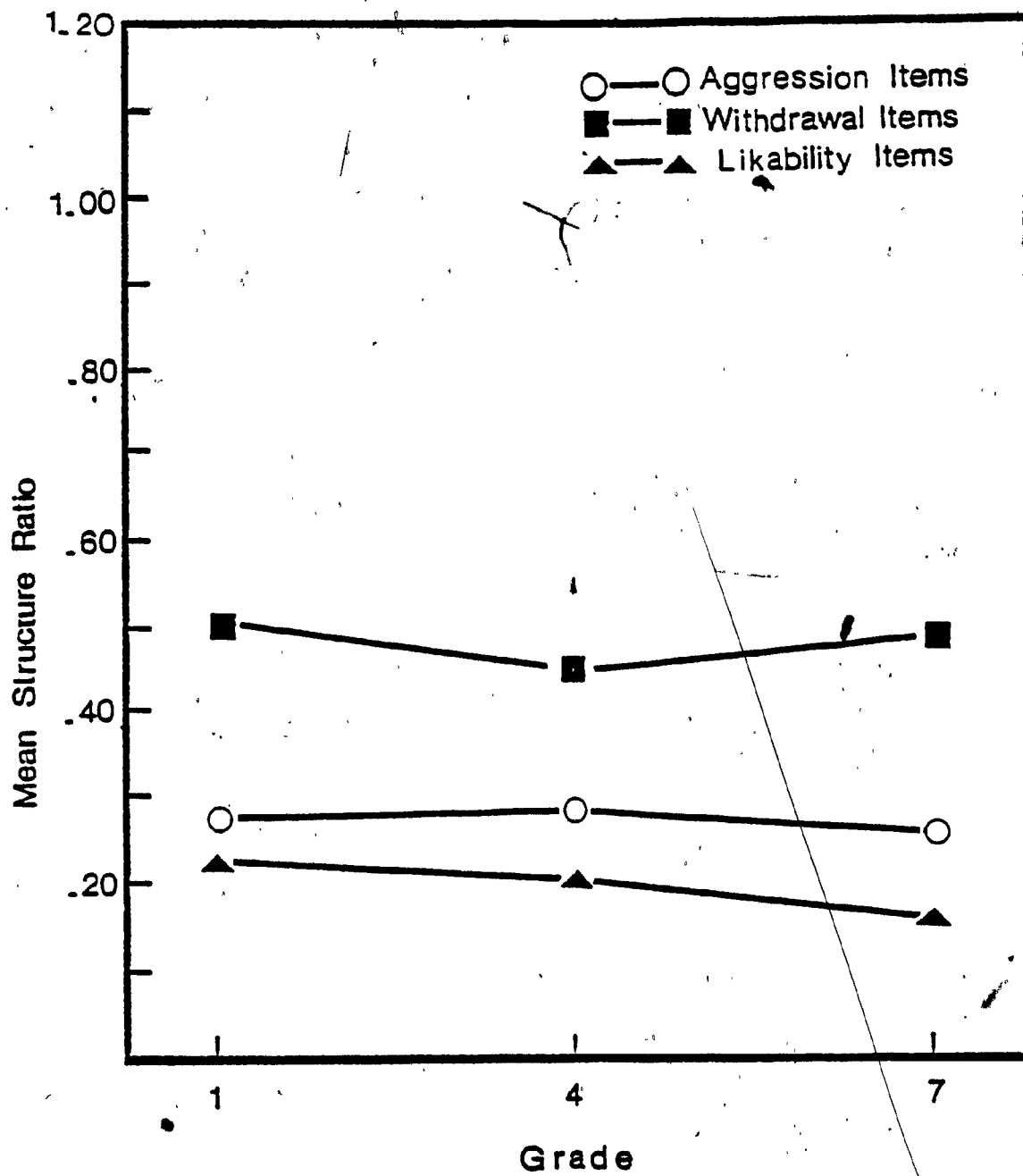


Figure 3. Two-dimensional representations of the similarity among the PEI items as derived from the teachers' ratings.



**Figure 4.** Mean structure ratios for the three categories of items as derived from the teachers' ratings.

## Children's Perceptions of Deviance

Table 2  
Means and Standard Deviations of Log-transformed Structure Ratios  
Derived from Teacher Ratings of Aggression, Withdrawal, and Likability

<u>Grade</u>		<u>Category of Items</u>		
		Aggression	Withdrawal	Likability
1	M	-.576	-.314	-.664
	SD	.133	.131	.025
4	M	-.554	-.367	-.699
	SD	.140	.167	.099
7	M	-.641	-.358	-.815
	SD	.159	.205	.085



STUDY 3

The Conceptual Structure Underlying Children's  
Perceptions of Aggression, Withdrawal, and Likability

Examination of the organization underlying teacher ratings of aggression, withdrawal, and likability, where age of rater was not a relevant factor, revealed no grade related trend that paralleled that found in the organization of children's ratings of their peers. The lack of such a trend in the teacher ratings cast serious doubt on the Age of Ratee hypothesis. It seemed more likely, therefore, that the peer ratings reflected rater-specific changes that were age related (i.e. the Age of Rater hypothesis), rather than shifts in the behaviours displayed by the children who were rated (i.e. the Age of Ratee hypothesis).

The third study was designed to investigate further the Age of Rater hypothesis by examining age related changes in children's beliefs or expectations concerning how behaviours are likely to co-occur. In this study a series of descriptions of hypothetical children were presented to first, fourth, and seventh graders, and their opinions were collected concerning what other types of behaviours these hypothetical children might display.

Because this study focussed on age related changes in the organization of children's beliefs about behaviour it was concerned with how children

conceptually categorize behaviour. Such conceptual categories have been referred to in a variety of ways in the cognitive social psychology literature, including the perceiver's Implicit Personality Theory (Rosenberg & Sedlack, 1972), Social Prototypes (Cantor & Mischel, 1977, 1979), and Social Schemata (Markus, 1977). The study of the structure of children's beliefs concerning deviant behaviour has important implications concerning the use of children as assessors as there is an abundance of literature indicating that such beliefs can influence social perception, directing the perceiver's attention toward expected behaviour and influencing, as well, his or her recall of previously observed behaviour (Judd & Kulk, 1980; Lord, 1980, Sentis & Burnstein, 1979). If, indeed, changes in the structure of children's beliefs concerning how behaviours co-occur provide the basis for age related changes in their peer ratings, then a shift which parallels that found in their peer ratings would be expected in the structure of such beliefs.

## METHOD

### Subjects

Children from six first grade, six fourth grade, and six seventh grade classes served as subjects in this study, for a total of 140 first graders (78 girls and 62 boys), 149 fourth graders (77 girls and 72 boys), and 147 seventh graders (62 girls and 85 boys). All children were French speaking students of the Montreal Catholic School Commission.

Materials

Behaviours from the 16-item version of the PEI (cf. Pekarik et al., 1976) served as stimuli in this study. Each item in turn was presented to the children as the distinguishing characteristic of a hypothetical child who they were to rate on a random subset of the remaining 15 PEI items.

Of the potential 240 such ratings (i.e. 16 hypothetical children rated on 15 PEI items) two sets of 120 ratings were randomly created. For each set, eight hypothetical children were rated on eight of the remaining PEI items and eight hypothetical children were rated on seven of the remaining PEI items. Thus, two complementary versions of the rating measure were created and each was administered to three of the six classes tested at each grade. Order of presentation of the hypothetical children was randomized for each class. (See Appendices C and D for complete versions of the measure).

Procedure

The children were told that we were interested in their opinions concerning the ways certain types of children that we would describe to them might act. They were instructed that the children about whom they were to be questioned were not in their class, nor were they even children that they knew. The names of 16 boys who were not in the class were collected to describe the hypothetical children. Each of the 16 hypothetical boys was described to the subjects as displaying one of the aggressive,

## Children's Perceptions of Deviance

withdrawn, or likable behaviors assessed by the PEI. The children were then asked to respond whether each hypothetical boy, in turn, might display each of the PEI items which were presented. (See Table 3 for sample questions). Rating the hypothetical boys involved simply responding yes or no for each item by circling the appropriate response on an answer sheet.<sup>1</sup>

Before beginning the actual testing procedure, three sample questions were presented to the children in order to explain the task and response procedure. The following three sample questions were presented:

(A) John is someone who is good at sports. Do you think John who is good at sports would be someone who is full of energy?

(B) Bill is someone who gets good grades at school. Do you think Bill who gets good grades at school would often forget to do his homework?

These first two examples were relatively straightforward in that the majority of children responded quickly and easily to each. A third example of a less straightforward question was included as well:

(C) John is someone who is good at sports. Do you think John who is good at sports would get good grades at school?

Typically, response was slower and mixed to this third question, which was used to illustrate the necessity to respond independently according to one's first impressions.

Following presentation of these three sample questions and discussion

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1. In order not to confound sex of the hypothetical children with the PEI behaviours that were used to describe them, it was decided to hold sex constant for all hypothetical children. A flip of a coin dictated the use of boys' names in this study.

TABLE 3  
Sample Questions Presented to the Children

Hypothetical Child

John is someone who says he can beat everybody up.

Sample Questions

Do you think that John who says he can beat everybody up would exaggerate and make up stories?

Do you think that John who says he can beat everybody up would be too shy to make friends easily?

Do you think that John who says he can beat everybody up would be liked by everyone?

Hypothetical Child

Bill is someone who is unhappy or sad.

Sample questions

Do you think that Bill who is unhappy or sad would make fun of others?

Do you think that Bill who is unhappy or sad would often not want to play?

Do you think that Bill who is unhappy or sad would always seem to understand things?

## Children's Perceptions of Deviance

of any problems, the actual testing proper was begun. Each of the hypothetical children was presented to the class followed by the seven or eight comparison items. All questions were presented to the class verbally, in a group testing format. A brief 5-minute break was included midway through the testing procedure.

The ratings for each hypothetical boy were computed separately for each class by calculating the mean number of yes responses for each item on which that boy was rated.

### Derivation of Proximity Measures

The original intent of this analysis was to treat the mean number of yes responses for each hypothetical boy for each of the items on which he was rated as a measure of similarity between the item used to describe the hypothetical boy and the subset of comparison items. This procedure, however, did not prove useful. This standard to referent comparison procedure resulted in considerable asymmetry in the similarity matrix, producing unacceptably high levels of stress in the multidimensional scaling solutions. Essentially the problem lay in the definition of inter-item similarity. Presenting one item as the prominent characteristic of a hypothetical child, and having the children rate that child on additional items may not be analogous to collecting ratings on how similar any two items are since the standard and referent items pertain to different things. The standard item serves as an anchor and is in fact linked directly to a particular hypothetical child. The referent items, in contrast, serve simply

as comparison behaviours. Inter-item similarity was therefore unidirectional, being defined in terms of how the referent items pertained to the standard item. Thus while the rows and columns of the similarity matrix contained the same 16 PEI items, columns referred to the most prominent behaviour displayed by a child, while rows referred simply to behaviours a child might or might not display.

Procedures for reducing such asymmetry have been described by Kruskal and Wish (1977) and Schiffman et al. (1979). Such procedures involve deriving a measure of similarity among pairs of row or column items by examining their relationship across all column or row items with which they have been compared. Such derived proximity measures could involve computing correlations between all pairs of items treating all comparison items as independent observations, or simply computing the absolute difference in mean rating between any two items across all referent stimuli with which they have been compared. This latter procedure was selected for the present study since it seemed to parallel best the co-nomination measures of inter-item similarity employed in the previous two studies. Thus, the similarity of any two standard stimuli (i.e. the items used to describe the typical behaviour of the hypothetical boys) was defined in terms of the absolute difference in mean yes responses they received across all referent items.

Since such a procedure entailed combining scores from both versions of the measure employed, the mean number of yes responses for each comparison were converted to Z-scores separately for each class tested.

Scores from both versions of the measure were then combined for the raters at each of the three grade levels. Inter-item similarity measures were then derived for all standard stimuli by computing the mean of the absolute difference in number of yes responses across all 15 referent stimuli. These measures of inter-item similarity were then analyzed using KYST-2A.

#### Assessment of Category Cohesiveness

From the results of the multidimensional scaling analyses, the cohesiveness of the categories of aggression, withdrawal, and likability items were assessed by computing modified structure ratios for all items separately at the three grade levels.

### RESULTS AND DISCUSSION

#### Multidimensional Scaling Analyses

Figure 5 reveals the 2-dimensional representations of the similarity among the 16 hypothetical boys at each grade level, (Kruskal's Stress =.069, .043, and .040 for grades one, four, and seven, respectively). Consistent with the findings of Study 1 concerning ratings of actual classmates, these representations reveal a clear grade related shift in the organization of the 16 PEI behaviors examined. First graders tended largely to organize these behaviors with respect to a single, social evaluative dimension. Aggression



items comprised a cohesive cluster of items at one pole of the dimension while likability items clustered into a similarly cohesive cluster at the opposite pole. Withdrawal items were not well-described by this social evaluative dimension, being distributed between the two extreme poles in a less cohesive cluster. As was found in children's actual peer ratings, an active-passive dimension assumed increasing importance as grade increased. At the fourth and seventh grades, social withdrawal items clustered into a considerably more cohesive category than at the first grade -- a category that became more distinct from aggression as grade increased.

#### Structure Ratios

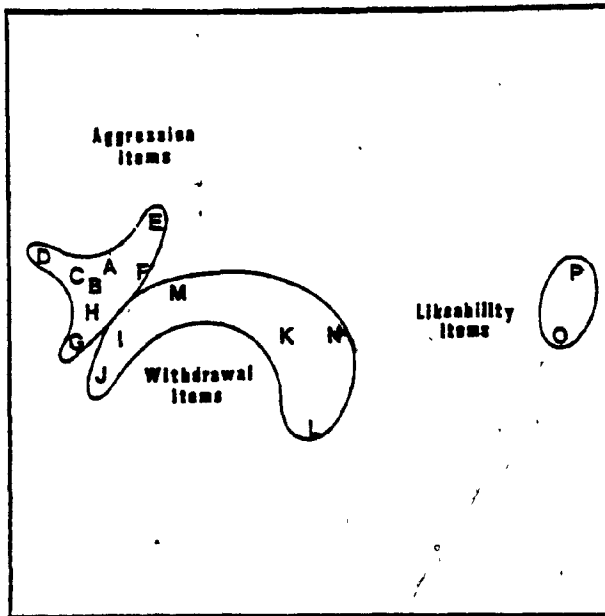
Figure 6 represents mean structure ratios for the three categories of items at the three grades. Grade related changes in cohesiveness of aggression and withdrawal categories were examined by means of a 2(Category of Item) X 3(Grade) ANOVA where the structure ratio computed for each item served as the dependent measure. As in the first two studies, homogeneity of variance was assured through the logarithmic transformation of the structure ratios, Barlett-Box  $F(8, 359)=1.16$ ,  $p=.320$ , (see Table 4 for mean transformed structure ratios). Results of the ANOVA revealed a significant main effect of grade,  $F(2, 16)=16.08$ ,  $p<.001$ , a significant main effect of category of item,  $F(1, 36)=31.56$ ,  $p<.001$ , and a significant grade by category of item interaction,  $F(2,36)=5.56$ ,  $p<.01$ . Analysis of the interaction using Scheffé tests ( $p=.05$ ) indicated no difference in mean structure ratio for the two categories of items except

at the first grade level where withdrawal items were significantly higher in mean structure ratio than aggression items. The mean structure ratio for withdrawal decreased significantly from grade one to four but remained constant from grade four to seven.

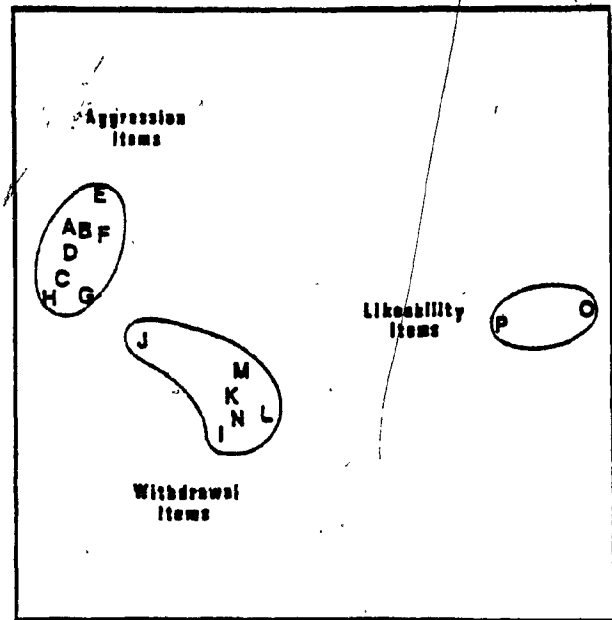
Summary

These results parallel, to a large extent, those reported in Study 1 concerning children's ratings of deviance in their classmates, both in terms of the age related emergence of an active - passive dimension and the age related increase in the cohesiveness of withdrawal items. Although withdrawal items were observed to cluster into a cohesive category of behaviours at an earlier age than was found in Study 1, the results of the two studies were, nevertheless, quite similar. It would appear, therefore, that the changes in the organization of children's ratings of deviant behavior in their peers have a conceptual basis -- i.e. that differences in the organization at various ages of children's beliefs concerning the co-occurrence of behavior, or differences in how children conceptually categorize social behavior, may influence the manner in which children perceive and report on such behavior in their classmates.

Grade 1



Grade 4



AGGRESSION ITEMS

- A. Start fights
- B. Make fun of others
- C. Bother others
- D. Don't pay attention to the teacher
- E. Say can beat up peers
- F. Exaggerate
- G. Complain
- H. Act like babies

WITHDRAWAL ITEMS

- I. Too shy to make friends
- J. Feelings easily hurt
- K. Have few friends
- L. Unhappy or sad
- M. Don't want to play
- N. Not noticed much

LIKEABILITY ITEMS

- O. Liked by everyone
- P. Always seem to understand things

Grade 7

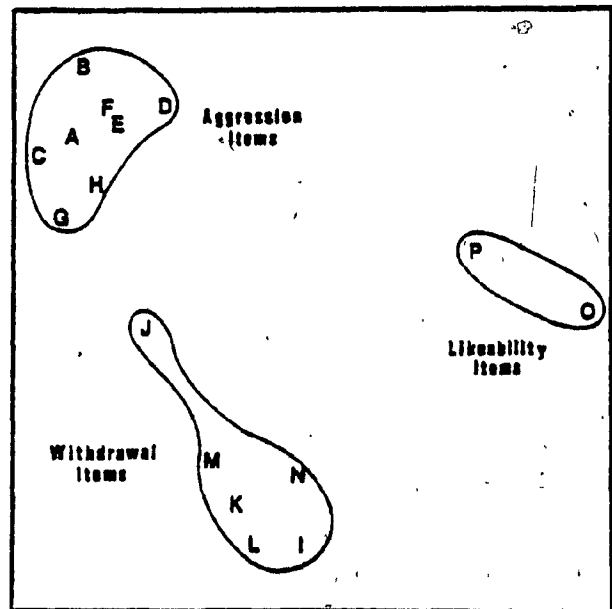
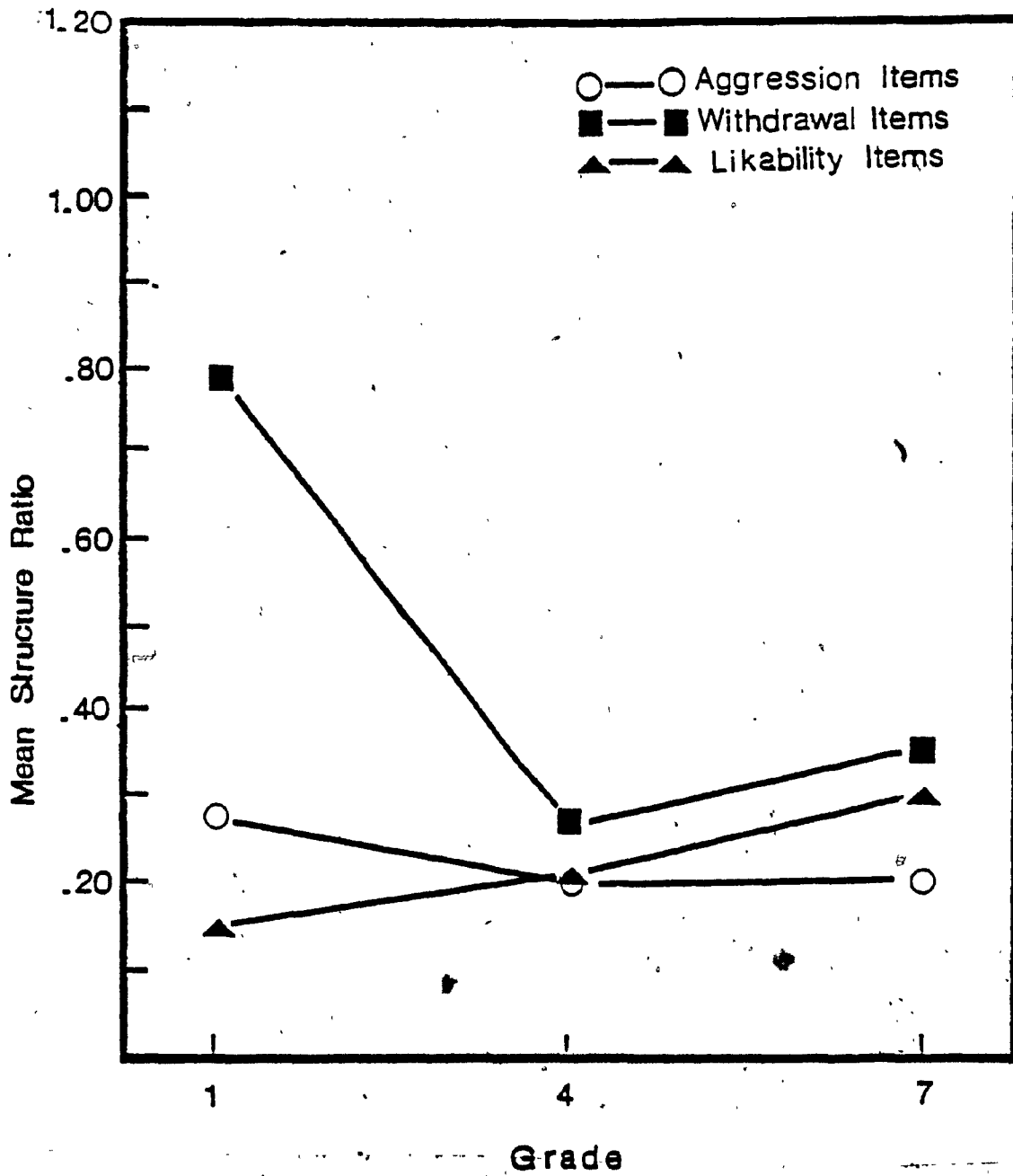


Figure 5. Two-dimensional representations of the similarity among the PEI items as derived from the children's ratings of hypothetical children.



**Figure 6.** Mean structure ratios for the three categories of items as derived from the children's ratings of hypothetical children.

Children's Perceptions of Deviance

Table 4  
Means and Standard Deviations of Log-transformed Structure Ratios  
Derived from Children's Ratings of Aggression, Withdrawal, and Likability  
in the Hypothetical Children

<u>Grade</u>		<u>Category of Items</u>		
		<u>Aggression</u>	<u>Withdrawal</u>	<u>Likability</u>
1	M	-.573	-.123	-.848
	SD	.118	.142	.013
4	M	-.705	-.617	-.673
	SD	.101	.196	.065
7	M	-.715	-.497	-.520
	SD	.110	.201	.063

STUDY 4

Children's Ratings of Older and Younger Children

The findings of Study 3 revealed an age-related shift in the organization of children's beliefs about how deviant behaviours co-occur that, to a large extent, paralleled those found in the structure of their actual peer ratings. It seems likely that such changes in children's conceptual organization of these behaviours may underlie the changes observed when these behaviours are actually applied to their classmates. However, on the basis of these data, such a causal relationship cannot be assumed.

The present study sought to test this hypothesis by examining how young children view the behaviour of older children and how older children view the behaviour of young children. First grade children were asked to rate the behaviour of seventh graders whom they knew sufficiently well to evaluate (i.e. a sibling, cousin, neighbour, etc.) and seventh graders were asked to rate a similarly familiar first grader.

It is clear from the first two studies of this investigation that both peers and teachers view the behaviour of seventh graders from a differentiated perspective, where aggression, withdrawal, and likability represent distinct and cohesive categories of behaviour, and both active - passive and social evaluative dimensions play roles of equal importance in

## Children's Perceptions of Deviance

the structuring of their perceptions. If, however, young children view behaviour from a less differentiated perspective, then such a perspective should be reflected in the organization of their ratings regardless of the ages of the children they are rating. Thus, even when rating the behaviour of seventh grade children it was predicted that first graders' ratings should reflect the less differentiated perspective evident in their ratings of their first grade peers.

In contrast, seventh graders appear to view behaviour from a more differentiated perspective which is similar to that of teachers. Thus, even when rating first graders it was predicted that the organization of seventh graders' ratings should be similar to that underlying their ratings of their seventh grade peers.

### METHOD

#### Subjects

Children from nine grade one and seven grade seven classes served as subjects in this study, for a total of 179 first graders (95 males and 84 females), and 172 seventh graders (99 males and 73 females). All children were French speaking students of the Montreal Catholic School Commission.

#### Materials

A modified version of the PEI was employed in this study. The PEI focuses to a large degree on observable classroom behaviour. In rating

## Children's Perceptions of Deviance

classmates such behaviours are quite appropriate. However, since the present study involved ratings of children who were not classmates of the raters, items had to be selected or modified so that they represented behaviours that the raters could observe outside the classroom situation. For some items no modification was required. Items such as "Those who say they can beat everybody up" or "Those who have few friends" describe behaviours that are readily observable in non-classroom situations, and could therefore remain unaltered. Other items such as "Those who are rude to the teacher" and "Those who don't listen to the teacher" were made more general such that they referred simply to adults rather than specifically to the teacher. In total, 19 items were included in this version of the measure: nine aggression items, six withdrawal items, and four likability items. (see Appendix E).

### Procedure

All testing was done in group format within each class. The initial phase of the procedure involved having the children select an appropriate individual to rate. In order to ensure that the individual selected by each child was of sufficient familiarity for him or her to validly evaluate, the children were first asked to indicate whether they had a sibling of the appropriate age (i.e. 12 to 14 years for first graders and 5 to 7 years for seventh graders). Those who did not have a sibling of the appropriate age were asked whether they knew well a cousin or neighbour of the appropriate age. Those who could not think of an individual of the required



## Children's Perceptions of Deviance

age who was of sufficient familiarity were instructed to mark their response sheet with a large X before testing began. Those who had selected an appropriate child were asked to write the child's age and sex on the response sheet and to then think only of the child whom they had selected. They were then asked to indicate whether the child they had selected displayed each of the 19 modified PEI behaviours. For first graders each behaviour was presented verbally while for seventh graders the behaviours were presented in written form. Responding to each behaviour involved simply circling yes or no for each question.

### Inter-Item Similarity

Measures of similarity between all pairs of items were derived in a manner similar to that employed with peer or teacher ratings. The similarity of each item to any other item was defined in terms of the number of equivalent responses shared by the two items in each pair across all raters at each grade. These measures were then analyzed separately for ratings of first graders and ratings of seventh graders using KYST-2A.

### Assessment of Category Cohesiveness

As in the previous three studies, the cohesiveness of the three categories of items was assessed by computing modified structure ratios for all items, based on the multidimensional scaling representations for the two grade levels.

RESULTS AND DISCUSSION

Multidimensional Scaling Analyses

Figure 7 illustrates the 2-dimensional representations of the similarity among the revised PEI items as derived from the ratings of first and seventh graders. It can be seen clearly that the organization of the items differed at the two grades. First graders' ratings were organized largely with respect to a single dimension that differentiated socially competent behaviours (i.e. Likability items) from the remaining deviant behaviours (i.e. Aggression and Withdrawal items). This dimension seems quite similar to the social evaluative dimension found to dominate both the peer ratings of first graders and their beliefs concerning the co-occurrence of behaviour. First graders made little distinction between aggressive and withdrawn forms of deviant behaviour when rating older children, although most deviant behaviours were clearly distinguished from likable behaviour. The one exception is the item "Those who like to show off". Although classified as an aggression item, referring to attention seeking behaviour, it appears that when first graders consider the behaviour of older children such behaviour is viewed positively.

Seventh graders, on the other hand, viewed the behaviour of first graders from a more differentiated perspective which discriminated all three categories of behaviour. As Figure 7 shows, a second dimension which resembles the active - passive dimension identified in earlier studies with

peer and teacher ratings played a much more prominent role in the organization of the seventh graders ratings. Aggression, withdrawal, and likability items clustered into categories in seventh graders' ratings of young children that were clearly more distinct than those revealed in the analysis of first graders' ratings of older children. However, in contrast to seventh graders' ratings of their same-age peers, the active - passive dimension identified in this study did not clearly differentiate between cohesive clusters of aggression and social withdrawal items. Rather, although aggression and withdrawal comprised distinct categories of behaviour underlying the ratings of seventh graders, the second dimension differentiated between items from within both categories rather than between two cohesive categories of items

#### Structure Ratios

The cohesiveness of aggression and withdrawal items at the two grade level was examined using a 2(category of item) X 2(grade) ANOVA. As in the previous three studies, homogeneity of variance was ensured by logarithmic transformation of the structure ratios, Barlett-Box  $F(5, 953)=2.12$ ,  $p=.061$ , (see Table 5 for means of the transformed structure ratios). Results of the ANOVA indicated a significant main effect of grade,  $F(1, 26)=7.02$ ,  $p<.05$ , and a significant grade by category of item interaction,  $F(1, 26)=16.11$ ,  $p<.001$ . The main effect of category of item was not significant,  $F(1, 26)=.79$ ,  $p=.38$ . Examination of the grade by category interaction using Scheffé tests ( $p=.05$ ) revealed that the mean structure

ratio for aggression items was significantly lower when seventh graders rated younger children than when first graders rated older children. No other comparisons between means were significantly different.

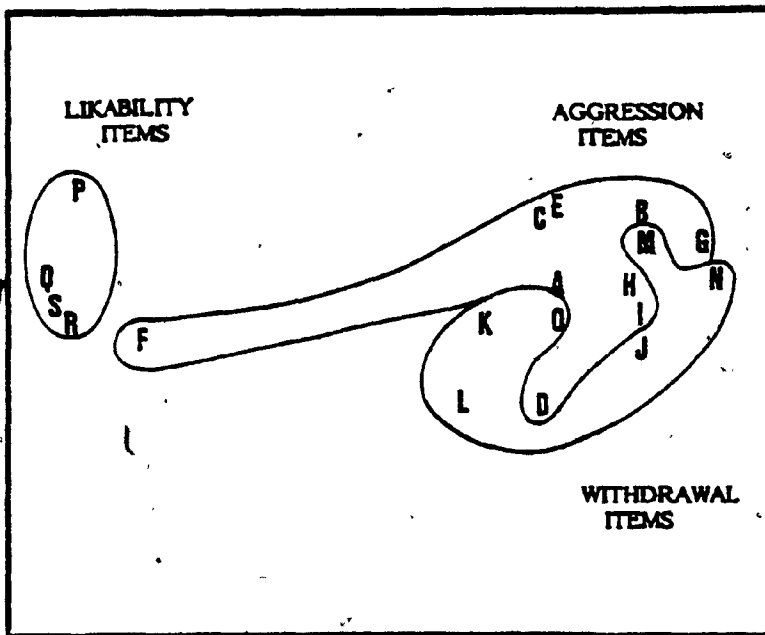
Summary

These results indicate clear differences in the organization of first graders' ratings of older children and seventh graders' ratings of younger children. Even when rating older children, first graders' perceptions of deviance were organized largely with respect to a single, social evaluative dimension. In contrast, when seventh graders rated the behaviour of younger children, their perceptions of deviance were considerably more differentiated, reflecting the consideration of two dimensions on the part of these older raters. The second dimension underlying seventh graders' ratings of younger children was more difficult to label as it did not clearly distinguish between cohesive categories of aggression and withdrawal items. Nevertheless, the organization of seventh graders' ratings was clearly more differentiated than that of first graders, and, while forming less cohesive categories of behaviour than in their ratings of same-age peers, aggression and withdrawal items clustered into distinct and identifiable categories in seventh graders' ratings of younger children. These findings indicate, therefore, an Age of Rater difference in perspective that manifests itself in how children view deviance in others.

First Graders Rating Seventh Graders

AGGRESSION ITEMS

- A. Starts fights over nothing
- B. Makes fun of others
- C. Gets mad easily
- D. Rude to adults
- E. Doesn't pay attention to what adults say
- F. Shows off
- G. Says he can beat up everybody
- H. Exaggerates and makes up stories
- I. Complains and is never happy



WITHDRAWAL ITEMS

- J. Feelings easily hurt
- K. Has few friends
- L. Often unhappy or sad
- M. Often doesn't want to play
- N. Gets upset easily
- O. Shy

LIKABILITY ITEMS

- P. Liked by everyone
- Q. Particularly nice
- R. Likes to help others
- S. Good at whatever he does

Seventh Graders Rating First Graders

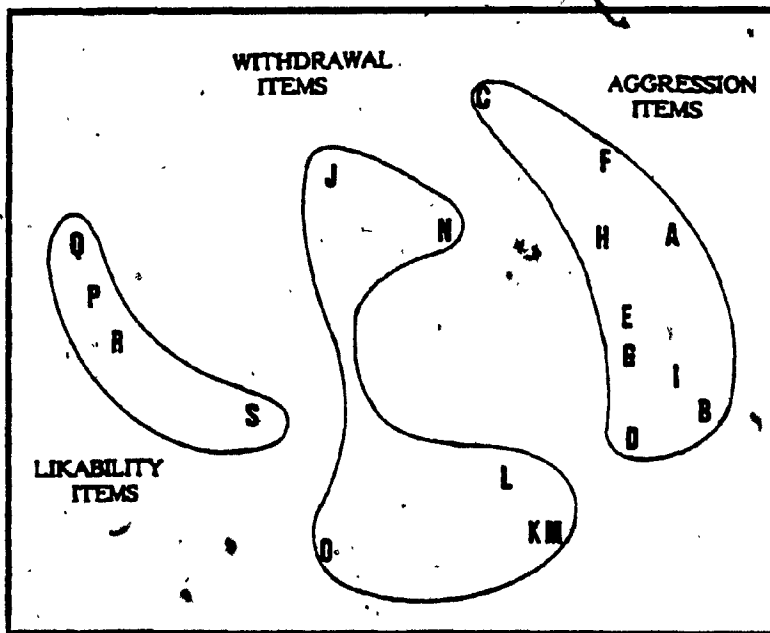


Figure 7. Two-dimensional representations of the similarity among the PEI items as derived from first graders' ratings of seventh graders and seventh graders' ratings of first graders.

## Children's Perceptions of Deviance

**Table 5**  
**Means and Standard Deviations of Structure Ratios Derived from First Graders' Ratings of Older Children and Seventh Graders' Ratings of Younger Children**

<u>Rater</u>		<u>Category of Items</u>		
		Aggression	Withdrawal	Likability
First Graders	M	.954	.608	.134
	SD	.592	.064	.055
Seventh Graders	M	.456	.804	.370
	SD	.117	.256	.226

Children's Perceptions of Deviance

Table 6  
Means and Standard Deviations of Log-transformed Structure Ratios  
Derived from First Graders' Ratings of Older Children and Seventh  
Graders' Ratings of Younger Children

Rater	Category of Items			
	Aggression	Withdrawal	Likability	
First Graders	M	-.066	-.219	-.897
	SD	.185	.047	.163
Seventh Graders	M	-.352	-.112	-.480
	SD	.099	.130	.223

GENERAL DISCUSSION

This investigation was conducted to evaluate the notion that children view social deviance from a different perspective than do adults and to determine how the perspective of children changes with age. Two major hypotheses were examined. First, it was suggested that aggression and social withdrawal, which are fundamental categories of deviance underlying the perspective of adult evaluators (Achenbach & Edelbrock, 1978; Quay, 1979), may not play an equally central role in the organization of children's perceptions of childhood deviance. Second, while both social evaluative and active - passive dimensions appear of equal importance in the structuring of adult perceptions of childhood deviance (Kohn, 1977; Ross, 1980), it was predicted that at young ages children may over-rely on the social evaluative dimension in organizing their perceptions of deviance, considering the active - passive dimension only at older ages. The findings of the four studies that were conducted provide support for both these predictions.

How children view aggression and social withdrawal clearly depends on their age. The findings of this investigation indicate that for young children a distinction of aggression vs. social withdrawal is not central to their perceptions of social deviance. Rather, young children seem more sensitive to the social acceptability of behaviour, differentiating between likable behaviours and most deviant behaviours. The unidimensional



perspective of first graders was evident not only in their ratings of same-age peers, but in their ratings of hypothetical children and of older, seventh grade children, suggesting that this dimension is of major importance to how young children organize and categorize their perceptions of deviance at a conceptual level. This finding is in agreement with previously-reported observations that indicate that a strongly polarized evaluative dimension dominates children's perceptions of trait descriptors (Ervin & Foster, 1960; Saltz et al., 1975) as well as their descriptions of other individuals (Coe & Pennington, 1976; Livesley & Bromley, 1973; Yarrow & Campbell, 1963). That such a dimension featured not only in children's beliefs about how behaviours co-occur (i.e. their ratings of the hypothetical children), but also in their actual peer ratings suggests the influence of such a conceptual dimension on how they perceive and report on the behaviour displayed by others. While it could be argued that the importance of this dimension in children's peer ratings accurately reflects the undifferentiated nature of the behaviour of their peers (the Age of Ratee hypothesis), this argument seems less tenable than the Age of Rater hypothesis, given the findings of the study examining teacher ratings. Whereas a clear grade-related shift away from the over-reliance on the evaluative dimension concurrent with the increasing consideration of the active - passive dimension was found in children's peer ratings, no such shift was evident in the organization of teacher ratings. Even when rating first graders, teacher ratings were organized with equal consideration of both dimensions. This difference between peer and teacher ratings strongly

## Children's Perceptions of Deviance

favours the Age of Rater hypothesis, suggesting that a developmental shift in how children organize their perceptions of deviance is reflected in their ratings of deviance in their classmates.

Not only were age-related differences observed in the major dimensions underlying children's perceptions of deviance, but also in how aggressive and withdrawn behaviours were perceived by children. Consistent with findings reported by Ledingham (1981), this investigation revealed that aggression and withdrawal became more distinct from one another in children's perceptions with increasing age. These findings, however, did not support the hypothesis, suggested by Rubenstein et al. (1975), that neither factor finds clear representation in children's conceptual schemata. Aggression represented a well-defined category of deviance underlying the perceptions of children at all grades examined. Rather, it was social withdrawal that was poorly-defined at young ages, but which became an increasingly better-defined category of deviance for children as grade increased. This finding complements that reported by Coie and Pennington (1976) concerning the content of children's descriptions of deviance displayed by their peers, where only at higher grades was withdrawal a salient pattern of deviance for children. Moscovitz et al. (in press) reported similar differences in children's ratings of aggression and withdrawal in their peers, noting that first grader's ratings of withdrawal were considerably lower in internal consistency and temporal stability than both first graders' ratings of aggression and fourth and seventh graders' ratings of withdrawal. Moscovitz et al. entertain both Age of Ratee and Age of Rater hypotheses

## Children's Perceptions of Deviance

as explanations for their observations. The findings of the present investigation, however, favour the latter explanation.

The interpretation of grade-related differences in children's ratings of aggression and withdrawal in terms of age of rater effects is not meant to imply, however, that no change takes place with increasing age in the patterns of deviant behaviour displayed by children. Indeed, while the organization of children's beliefs about how behaviours co-occur paralleled that found in their peer ratings, differences in organization were also observed. In the study of children's beliefs social withdrawal items were observed to cluster into a cohesive category at an earlier grade (grade four) than in children's peer ratings, where the change occurred gradually from grades one to seven. This difference may reflect an age-related interaction between children's perceptions of deviance and the patterns of behaviour actually displayed by their peers. The raters were clearly more familiar with the behaviour of their actual classmates than with that of the hypothetical child. Indeed, the instructions to the raters stated that the hypothetical children were not individuals that they knew. That children's perceptions of withdrawal became focussed at a later grade when rating their peers than when rating the hypothetical children could therefore reflect the raters' greater familiarity with the behaviour of their peers. Thus, the age-related shift in children's perceptions of withdrawal in their peers might reflect both the increasing differentiation of the perspective of the raters as well as of the behaviour displayed by their classmates.

While Age of Ratee effects can, therefore, be considered to play a

role in the change in children's ratings across grade level, this role appears secondary to that of Age of Rater effects. When age of rater was held constant across grade level, as was the case with the teacher ratings, no grade-related change was observed in the cohesiveness of either aggression or withdrawal. Thus Age of Ratee exerted no effect on how teachers viewed deviance. Similarly, when first graders rated seventh graders, their ratings had much in common with their ratings of same-age peers. The Age of Ratee hypothesis suggests that the behaviour of seventh graders should be viewed as quite differentiated, regardless of who performs the rating. Clearly, this was not the case when the raters were first grade children. Despite the older ages of the children rated in this study, first graders continued to view behaviour from an undifferentiated, evaluative perspective. Thus, age of rater appears to be a more important contributor to the organization of children's perceptions of deviance than is the age of those rated.

The findings of this investigation have an important bearing on the decision to use children as assessors of social deviance in their peers. The results indicate that children do not view deviance in their peers from an equivalent perspective at all ages. Indeed, Rolf's (1976) suggestion, that children may be less adept than adults at labelling all forms of deviance in their peers, appears to have substance. It seems that at young ages children do not have a clear conception of socially withdrawn behaviour. Children do appear, however, quite sensitive to aggression at all ages. It would appear, therefore, that children of all ages could provide valid ratings

## Children's Perceptions of Deviance

of aggression in their peers. Indeed, studies with children in the third to sixth grades indicate that peer ratings of aggression accurately predict amount of aggressive behaviour displayed (Peterson, 1971; Wiggins & Winder, 1964; Williams et al., 1967). The findings of the present investigation indicated no change in children's perceptions of aggression from the first to seventh grades, suggesting that such accuracy may extend downward as far as the first grade.

It is questionable, on the other hand, whether young children could provide valid ratings of social withdrawal in their peers. The findings of the present investigation indicate that social withdrawal is not a well-defined category underlying young children's ratings of deviant in their peers, nor underlying the structure of their belief systems concerning deviant social behaviour. This finding is consistent with those of other studies which indicate that social withdrawal is not central to young children's perceptions of deviance in their peers (Cole & Pennington, 1976; Yarrow & Campbell, 1963). In contrast, for both teachers and older children, social withdrawal appeared to represent a category of social deviance which was as well defined as was aggression. Thus, at least with first graders, teacher ratings might provide a better estimate of social withdrawal. Grade four and seven children have a better defined view of social withdrawal and their ratings could, therefore, provide a valid source of assessment information.

Given the undifferentiated, evaluative nature of young children's perceptions of social deviance in their peers, the reported ability of such

children's peer ratings to predict adult psychopathology with possibly greater accuracy than ratings provided by adult evaluators (Cowen et al., 1973; Roff, 1972, 1976) is intriguing. Several explanations may be offered for this phenomenon.

First, even though first graders do not appear to make fine distinctions between types of deviance, as do older children, they certainly distinguish between deviant and non-deviant behaviour. Indeed, this deviant vs. non-deviant distinction appears central to their view of the social behaviour of their peers. Thus, although they may have trouble labelling the deviance that their peers display, it would seem that they are able to label their peers as normal or maladjusted, and this ability to distinguish maladjusted peers from normal peers may have important predictive implications. Cowen et al. (1973) suggest that one of the reasons why peer ratings can predict adult psychopathology is that the peer raters may actually contribute to its development. These investigators have suggested that not only are children able to identify early those of their peers who are deviant, but, having labelled such children as different, they then interact with them in a manner that serves to exacerbate existing social difficulties. Cowen et al. suggest that ostracization from the peer group of the child labelled as deviant may be, a particularly important exacerbating variable. Indeed, peer rejection appears to play an important role in the development of psychopathology (Roff, 1970; Roff et al., 1972). First graders' peer ratings might, therefore, be predictive of later adult psychopathology even insofar as they simply discriminate deviant, disliked

## Children's Perceptions of Deviance

peers from non-deviant peers. Thus, it may be of little importance that young children do not make much distinction between specific forms of deviant behaviour. Simply focussing on those whom they view as deviant may identify children at risk for later psychopathology. Such an approach, however, should be combined with attempts to identify specific patterns of behaviour associated with peer rejection so that appropriate intervention procedures can be developed.

A second interpretation of the ability of childhood peer ratings to predict adult psychopathology despite young children's less differentiated view of deviance takes into account the relative contributions of childhood aggression and withdrawal to the development of adult psychopathology. There is evidence clearly pointing at aggression as an important predictor of adult problems. Childhood aggression has been found related to adolescent delinquency and adult sociopathy (Roff, 1961, 1963; Robins, 1966) as well as psychotic disturbances in adulthood (Kohlberg et al., 1972; Michael, Morris, & Soroker, 1957, Robins, 1966). Children of all ages appear sensitive to aggression, and even first graders seem able to recognize and report on aggressive behaviour in their peers.

The role of social withdrawal as a predictor of adult pathology, however, is less clear (Asher, 1983). In contrast to the evidence relating aggression to adult psychopathology considerably less is known concerning the role of childhood social withdrawal. There is evidence that suggests that shy or timid behaviour may not be an important predictor of later problems (Kohlberg et al., 1972; Morris, Soroker, & Burrus, 1954). Indeed, in

## Children's Perceptions of Deviance

a follow up study of shy children into adulthood, Morris et al. (1954) report that the majority of such children were adequately adjusted as adults, concluding that mental health professionals and teachers alike may be over-concerned with such children. But, while shy, withdrawn behaviours may not be that predictive of later problems, other forms of socially withdrawn behaviour may represent significant predictive variables. Kohlberg et al. (1972) suggest that an active attempt at social isolation -- a hostile form of social withdrawal -- may be an important predictor of later psychopathology. Along the same vein, Schwartzman and Ledingham believe that socially withdrawn behaviour that is exhibited in conjunction with aggressive behaviour may be a more important predictive variable than either category of deviant behaviour viewed alone (Ledingham, 1981; Schwartzman, Ledingham, & Serbin, in press). Young children might be more sensitive than older children or adults to these sorts of peculiar withdrawn behaviours that occur with aggression. The findings of the present investigation indicate that first graders viewed certain withdrawn behaviours negatively and more likely than other withdrawn behaviours to co-occur with aggression. Teachers and older children, on the other hand, make a sharp distinction between aggressive and withdrawn behaviours. It may be that the less differentiated perspective of young children gives them an advantage when it comes to recognizing the co-occurrence of behaviours which to adults occur in discrete categories of behaviour. Indeed, it is possible that the more differentiated perspective of older children and adults might impede their ability to give equal weight to both



aggressive and withdrawn behaviours in their assessments.

The existence of well defined conceptual categories for social behaviour normally serves a facilitative role in the processing of information about others. Such categories, however, also serve to filter social information such that, once an individual has been categorized by the perceiver, he comes to be viewed as increasingly representative of the conceptual category over time (Cantor & Mischel, 1977, 1979). Older raters, who possess well-defined conceptual categories for aggressive and withdrawn behaviours, might therefore have difficulty perceiving or remembering withdrawn behaviour in an individual who is primarily aggressive, or aggressive behaviour in an individual who is primarily withdrawn. The perceptions of young raters, on the other hand might not be so encumbered. Indeed, there is evidence indicating that young children's perceptions of behaviour are situation specific and reflect only observable behaviour, while those of older children are more dispositionally oriented and include attributions of intention and motives (Barenboim, 1981; Ross, 1981; Shantz, 1983). While this may interfere with young children's ability to recognize the consistencies in the behaviour of others and to predict behaviour across situations (Rholes & Ruble, 1984; Shantz, 1983), it may also allow them to recognize the co-occurrence of seemingly inconsistent behaviour in their peers -- behaviours such as aggression and withdrawal. Thus, young children could possibly perceive inconsistent behaviours in their peers more accurately than could older children and teachers. Such differences in social perception might, therefore, explain the superior ability

of peer ratings in comparison to adult ratings to predict adult psychopathology, despite young children's difficulty in labelling deviant behaviour. Labelling deviant behaviour may require a well defined conceptual system for behaviour which is dispositional in nature, while reporting on behaviour in one's peers may require only that the rater be able to accurately observe behaviour.

In summary, the findings of this investigation provide evidence of age-related differences in how children view aggression and withdrawal. At young ages, the perspective of children is quite undifferentiated, but becomes increasingly similar to the more differentiated perspective of adult raters as age increases. Such differences shed light on the interesting findings that peer evaluations predict adult psychopathology more accurately than adult ratings, yet provide less robust indices of children's current social functioning.

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APPENDIX A

The French Translation of the Pupil Evaluation Inventory

### AGGRESSION ITEMS

- A. Ceux qui ne sont pas capable de rester assis tranquilles.
- B. Ceux qui essaient de mettre les autres dans le trouble.
- C. Ceux qui se prennent des airs supérieurs et qui pensent qu'ils valent mieux que tout le monde.
- D. Ceux qui font le clown et qui font rire les autres.
- E. Ceux qui commencent la chicane à propos de rien.
- F. Ceux qui disent aux autres quoi faire.
- G. Ceux qui s'empêchent tout le temps et se mettent en difficultés.
- H. Ceux qui rient des gens.
- I. Ceux qui font des choses bizarres.
- J. Ceux qui ennuiement les gens qui essaient de travailler.
- K. Ceux qui se mettent en colère quand les choses ne marchent comme ils veulent.
- L. Ceux qui ne portent pas attention au professeur.
- M. Ceux qui sont impolis avec le professeur.
- N. Ceux qui agissent comme des bébés.
- O. Ceux qui sont méchants et cruels avec les autres enfants.
- P. Ceux qui vous regardent de travers.
- Q. Ceux qui veulent faire les fins devant la classe.
- R. Ceux qui disent qu'ils peuvent battre tout le monde.
- S. Ceux qui exagèrent et racontent les histoires.
- T. Ceux qui se plaignent toujours et qui ne sont jamais contents.

### WITHDRAWAL ITEMS

- U. Ceux qui sont trop timides pour se faire des amis facilement.
- V. Ceux qui sont trop facilement blessés.
- W. Ceux qui semblent jamais s'amuser.

- X. Ceux qui sont bouleversés quand ils ont à répondre aux questions en classe.
- Y. Ceux qui sont d'habitude les derniers choisis pour participer à des activités de groupe.
- Z. Ceux qui ont très peu d'amis.
1. Ceux qui sont malheureux ou tristes.
  2. Ceux qui souvent ne veulent pas jouer.
  3. Ceux que l'on ne remarque pas beaucoup.

LIKABILITY ITEMS

4. Ceux qui aident les autres.
5. Ceux que tout le monde aime.
6. Ceux qui sont vos meilleurs amis.
7. Ceux qui sont particulièrement gentils.
8. Ceux qui semblent toujours comprendre ce qui se passe.

APPENDIX B

The French Translation of the Abbreviated 16-Item Version  
of the Pupil Evaluation Inventory

AGGRESSION ITEMS

- E. Ceux qui commencent la chicane à propos de rien.
- H. Ceux qui rient des gens.
- J. Ceux qui ennuiant les gens qui essaient de travailler.
- L. Ceux qui ne portent pas attention au professeur.
- N. Ceux qui agissent comme des bébés.
- R. Ceux qui disent qu'ils peuvent battre tout le monde.
- S. Ceux qui exagèrent et qui racontent les histoires.
- T. Ceux qui se plaignent toujours et qui ne sont jamais contents.

WITHDRAWAL ITEMS

- U. Ceux qui sont trop timides pour se faire des amis facilement.
- V. Ceux qui sont trop facilement blessés.
- Z. Ceux qui ont très peu d'amis.
- 1. Ceux qui sont malheureux ou tristes.
- 2. Ceux qui souvent ne veulent pas jouer.
- 3. Ceux que l'on ne remarque pas beaucoup.

LIKABILITY ITEMS

- 5. Ceux que tout le monde aime.
- 8. Ceux qui semblent toujours comprendre ce qui se passe.



APPENDIX C

Questionnaire Used in the Rating of Hypothetical Children

Form A

Penses-tu qu'un enfant que tout le monde aime...

1. Soit malheureux ou triste?

2. Dise qu'il peut battre tout le monde?

3. Commence la chicane à propos de rien?

4. Rie des gens?

5. Ne porte pas attention au professeur?

6. Agisse comme un bébé?

7. S'en rase trop facilement?

Penses-tu qu'un enfant qui dit qu'il peut battre tout le monde...

1. Soit trop timide pour se faire des amis facilement?
2. Exagère et raconte des histoires?
3. Se plaint toujours et ne soit jamais content?
4. S'en fasse trop facilement?
5. Ne porte pas attention au professeur?
6. Ennuie les gens qui essaient de travailler?
7. Rie des gens?
8. Commence la chicane à propos de rien?

Penses-tu qu'un enfant qui souvent ne veut pas jouer...

1. Soit trop timide pour se faire des amis facilement?

2. Soit aimé par tout le monde?

3. Ne porte pas attention au professeur?

4. Semble toujours comprendre ce qui se passe?

5. Exagère et raconte des histoires?

6. S'en fasse trop facilement?

7. Ennuie les gens qui essaient de travailler?

8. Dise qu'il peut battre tout le monde?

Penses-tu qu'un enfant que l'on ne remarque pas beaucoup ...

1. Ne porte pas attention au professeur?
2. Ait très peu d'amis?
3. Exagère et raconte des histoires?
4. Souvent ne veuille pas jouer?
5. Soit trop timide pour se faire des amis facilement?
6. Dise qu'il peut battre tout le monde?
7. Soit aimé par tout le monde?

**Penses-tu qu'un enfant qui exagère et qui raconte des histoires**

1. Commence la chicane à propos de rien?
2. Ennuie les gens qui essaient de travailler?
3. Soit malheureux ou triste?
4. Ait très peu d'amis?
5. Soit aimé par tout le monde?
6. Agisse comme un bébé?
7. S'en fasse trop facilement?
8. Rie des gens?

Penses-tu qu'un enfant qui se plaint toujours et qui n'est jamais content ...

1. Agisse comme un bébé?
2. Exagère et raconte des histoires?
3. Soit aimé par tout le monde?
4. Semble toujours comprendre ce qui se passe?
5. Soit trop timide pour se faire des amis facilement?
6. Souvent ne veuille pas jouer?
7. Ne soit pas remarqué beaucoup?

Penses-tu qu'un enfant qui semble toujours comprendre ce qui se passe ...

1. Soit malheureux ou triste?

2. Dise qu'il peut battre tout le monde?

3. Ait très peu d'amis?

4. Exagère et raconte des histoires?

5. Agisse comme un bébé?

6. Soit aimé par tout le monde?

7. Souvent ne veuille pas jouer?



**Penses-tu qu'un enfant qui agit comme un bébé ...**

1. **Souvent ne veuille pas jouer?**
2. **Ne porte pas attention au professeur?**
3. **Dise qu'il peut battre tout le monde?**
4. **Soit trop timide pour se faire des amis facilement?**
5. **Commence la chicane à propos de rien?**
6. **Ne soit pas remarqué beaucoup?**
7. **Ait très peu d'amis?**

Penses-tu qu'un enfant qui ne porte pas attention au professeur

1. Commence la chicane à propos de rien?

2. Rie des gens?

3. Soit malheureux ou triste?

4. Ait très peu d'amis?

5. Se plaigne toujours et ne soit jamais content?

6. Semble toujours comprendre ce qui se passe?

7. Exagère et raconte des histoires?

8. S'en fasse trop facilement?

Penses-tu qu'un enfant qui commence la chicane à propos de rien

1. S'en fasse trop facilement?

2. Rie des gens?

3. Soit trop timide pour se faire des amis facilement?

4. Souvent ne veuille pas jouer?

5. Agisse comme un bébé?

6. Soit malheureux ou triste?

7. Se plaigne toujours et ne soit jamais content?

8. Ne soit pas remarqué beaucoup?

Penses-tu qu'un enfant qui rie des gens ...

1. Se plaint toujours et ne soit jamais content?
2. Agisse comme un bébé?
3. Soit malheureux ou triste?
4. Soit trop timide pour se faire des amis facilement?
5. Semble toujours comprendre ce qui se passe?
6. Ennuie les gens qui essaient de travailler?
7. Ne soit pas remarqué beaucoup?
8. Souvent ne veuille pas jouer?

Penses-tu qu'un enfant qui s'en fait trop facilement ...

1. Semble toujours comprendre ce qui se passe?

2. Soit malheureux ou triste?

3. Soit trop timide pour se faire des amis facilement?

4. Ne soit pas remarqué beaucoup?

5. Agisse comme un bébé?

6. Ait très peu d'amis?

7. Se plaigne toujours et ne soit jamais content?

8. Rie des gens?

Penses-tu qu'un enfant qui est trop timide pour se faire des amis facilement ...

1. Ennuie les gens qui essaient de travailler?

2. Ne porte pas attention au professeur?

3. Soit aimé par tout le monde?

4. Ait très peu d'amis?

5. Soit malheureux ou triste?

6. Semble toujours comprendre ce qui se passe?

7. Exagère et raconte des histoires?

Penses-tu qu'un enfant qui a très peu d'amis ...

1. Soit aimé par tout le monde?
2. Se plaigne toujours et ne soit jamais content?
3. Dise qu'il peut battre tout le monde?
4. Ennuie les gens qui essaient de travailler?
5. Commence la chicane à propos de rien?
6. Souvent ne veuille pas jouer?
7. Rie des gens?

Penses-tu qu'un enfant qui ennuie les gens qui essaient de travailler ...

1. Agisse comme un bébé?
2. Semble toujours comprendre ce qui se passe?
3. Se plaigne toujours et ne soit jamais content?
4. Commence la chicane à propos de rien?
5. S'en fasse trop facilement?
6. Soit aimé par tout le monde?
7. Ne soit pas remarqué beaucoup?
8. Ne porte pas attention au professeur?



Penses-tu qu'un enfant qui est malheureux ou triste ...

1. Se plaigne toujours et ne soit jamais content?

2. Agisse comme un bébé?

3. Ennuie les gens qui essaient de travailler?

4. Souvent ne veuille pas jouer?

5. Ait très peu d'amis?

6. Dise qu'il peut battre tout le monde?

7. Ne soit pas remarqué beaucoup?

APPENDIX D

Questionnaire Used in the Rating of Hypothetical Children

Form B

Penses-tu qu'un enfant que tout le monde aime ...

1. Ait très peu d'amis?

2. Souvent ne veuille pas jouer?

3. Soit trop timide pour se faire des amis facilement?

4. Se plaigne toujours et ne soit jamais content?

5. Exagère et raconte des histoires?

6. Ennuie les gens qui essaient de travailler?

7. Semble toujours comprendre ce qui se passe?

8. Ne soit pas remarqué beaucoup?

Penses-tu qu'un enfant qui dit qu'il peut battre tout le monde...

1. Soit aimé par tout le monde?

2. Ait très peu d'amis?

3. Agisse comme un bébé?

4. Soit malheureux ou triste?

5. Ne soit pas remarqué beaucoup?

6. Souvent ne veuille pas jouer?

7. Semble toujours comprendre ce qui se passe?

Penses-tu qu'un enfant qui souvent ne veut pas jouer...

1. Agisse comme un bébé?

2. Soit malheureux ou triste?

3. Commence la chicane à propos de rien?

4. Ne soit pas remarqué beaucoup?

5. Se plaigne toujours et ne soit jamais content?

6. Ait très peu d'amis?

7. Rie des gens?

Penses-tu qu'un enfant que l'on ne remarque pas beaucoup ...

1. Semble toujours comprendre ce qui se passe?
2. S'en fasse trop facilement?
3. Agisse comme un bébé?
4. Rie des gens?
5. Ennuie les gens qui essaient de travailler?
6. Commence la chicane à propos de rien?
7. Soit malheureux ou triste?
8. Se plaigne toujours et ne soit jamais content?

Penses-tu qu'un enfant qui exagère et qui raconte des histoires

1. Dise qu'il peut battre tout le monde?
2. Se plaigne toujours et ne soit jamais content?
3. Ne soit pas remarqué beaucoup?
4. Souvent ne veuille pas jouer?
5. Semble toujours comprendre ce qui se passe?
6. Ne porte pas attention au professeur?
7. Soit trop timide pour se faire des amis facilement?

Penses-tu qu'un enfant qui se plaint toujours et qui n'est jamais content ...

1. Rie des gens?

2. Soit malheureux ou triste?

3. Ait très peu d'amis?

4. Dise qu'il peut battre tout le monde?

5. Ennuie les gens qui essaient de travailler?

6. Ne porte pas attention au professeur?

7. S'en fasse trop facilement?

8. Commence la chicane à propos de rien?



Penses-tu qu'un enfant qui semble toujours comprendre ce qui se passe ...

1. S'en rase trop facilement?
2. Ennuie les gens qui essaient de travailler?
3. Souvent ne veuille pas jouer?
4. Se plaint toujours et ne soit jamais content?
5. Rie des gens?
6. Commence la chicane à propos de rien?
7. Ne porte pas attention au professeur?
8. Soit trop timide pour se faire des amis facilement?

Penses-tu qu'un enfant qui agit comme un bébé...

1. Se plaint toujours et ne soit jamais content?

2. Ennuie les gens qui essaient de travailler?

3. Soit malheureux ou triste?

4. Rie des gens?

5. S'en fasse trop facilement?

6. Semble toujours comprendre ce qui se passe?

7. Exagère et raconte des histoires?

8. Soit aimé par tout le monde?

Penses-tu qu'un enfant qui ne porte pas attention au professeur

1. Ne soit pas remarqué beaucoup?
2. Soit trop timide pour se faire des amis facilement?
3. Agisse comme un bébé?
4. Souvent ne veuille pas jouer?
5. Dise qu'il peut battre tout le monde?
6. Soit aimé par tout le monde?
7. Ennuie les gens qui essaient de travailler?

Penses-tu qu'un enfant qui commence la chicane à propos de rien

1. Ne porte pas attention au professeur?
2. Exagère et raconte des histoires?
3. Soit aimé par tout le monde?
4. Ait très peu d'amis?
5. Semble toujours comprendre ce qui se passe?
6. Dise qu'il peut battre tout le monde?
7. Ennuie les gens qui essaient de travailler?

Penses-tu qu'un enfant qui rie des gens ...

1. Ne porte pas attention au professeur?
2. Commence la chicane à propos de rien?
3. Soit aimé par tout le monde?
4. Dise qu'il peut battre tout le monde?
5. S'en fasse trop facilement?
6. Ait très peu d'amis?
7. Exagère et raconte des histoires?

Penses-tu qu'un enfant qui s'en fait trop facilement ...

1. Commence la chicanè à propos de rien?
2. Dise qu'il peut battre tout le monde?
3. Ennuie les gens qui essaient de travailler?
4. Souvent ne veuille pas jouer?
5. Soit aimé par tout le monde?
6. Ne porte pas attention au professeur?
7. Exagère et raconte des histoires?

Penses-tu qu'un enfant qui est trop timide pour se faire des amis facilement ...

1. Souvent ne veuille pas jouer?

2. Dise qu'il peut battre tout le monde?

3. S'en fasse trop facilement?

4. Commence la chicane à propos de rien?

5. Rie des gens?

6. Agisse comme un bébé?

7. Se plaigne toujours et ne soit jamais content?

8. Ne soit pas remarqué beaucoup?

Penses-tu qu'un enfant qui a très peu d'amis ...

1. Ne soit pas remarqué beaucoup?
2. Semble toujours comprendre ce qui se passe?
3. Soit trop timide pour se faire des amis facilement?
4. Ne porte pas attention au professeur?
5. Soit malheureux ou triste?
6. Exagère et raconte des histoires?
7. S'en fasse trop facilement?
8. Agisse comme un bébé?



Penses-tu qu'un enfant qui ennue les gens qui essaient de travailler ...

1. Soit trop timide pour se faire des amis facilement?

2. Exagère et raconte des histoires?

3. Soit malheureux ou triste?

4. Ait très peu d'amis?

5. Rie des gens?

6. Dise qu'il peut battre tout le monde?

7. Souvent ne veuille pas jouer?

1 ✓

Penses-tu qu'un enfant qui est malheureux ou triste ...

1. Soit aimé par tout le monde?
2. Semble toujours comprendre ce qui se passe?
3. S'en fasse trop facilement?
4. Exagère et raconte des histoires?
5. Rie des gens?
6. Ne porte pas attention au professeur?
7. Soit trop timide pour se faire des amis facilement?
8. Commence la chicane à propos de rien?

APPENDIX E

Items Used in the Rating of Older and Younger Children

Votre sexe \_\_\_\_\_

Son sexe \_\_\_\_\_

Son âge \_\_\_\_\_

EST-CE QUE C'EST QUELQU'UN QUI...

1. est plus grand que les autres de son âge?
2. est trop facilement blessé?
3. commence la chicane à propos de rien?
4. est aimé par tout le monde?
5. rie des gens?
6. n'a pas beaucoup d'amis?
7. se met en colère quand les choses ne marchent comme il veut?
8. est impoli avec les adultes?
9. ne prête pas attention à ce que les adultes lui disent?
10. est souvent malheureux ou triste?

EST-CE QUE C'EST QUELQU'UN QUI...

11. est particulièrement gentil?
12. souvent ne veut pas jouer avec les autres enfants?
13. aime souvent faire son fin?
14. dit qu'il peut battre tout le monde?
15. exagère et raconte des histoires?
16. se plaint tout le temps et qui n'est jamais content?
17. aime aider les autres enfants?
18. s'en fait trop facilement pour rien?
19. est très timide?
20. est bon dans tout ce qu'il fait?

APPENDIX F  
ANOVA Summary Tables

ANOVA Summary Table for Structure Ratio Analysis  
Study 1

<u>Source of Variance</u>	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>
Grade	.4569	2	.2285	10.879 *
Category of Item	4.3456	1	4.3456	206.926 *
Grade by Category	.8636	2	.4318	20.561 *
Within Cells	1.3861	66	.0210	

\* p.001

ANOVA Summary Table for Structure Ratio Analysis  
Study 2

<u>Source of Variance</u>	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>
Grade	.0880	2	.0440	1.790
Category of Item	.9172	1	.9172	37.311 *
Grade by Category	.0302	2	.0151	0.615
Within Cells	1.6225	66	.0246	

\*  $p < .001$



ANOVA Summary Table for Structure Ratio Analysis  
Study 3

<u>Source of Variance</u>	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>
Grade	.6668	2	.3334	16.081 **
Category of Item	.6543	1	.6543	31.450 **
Grade by Category	.2304	2	.1152	5.558 *
Within Cells	.7464	66	.0207	

\*  $p < .01$   
\*\*  $p < .001$

ANOVA Summary Table for Structure Ratio Analysis  
Study 4

<u>Source of Variance</u>	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>
Grade	.1243	1	.1243	7.204 *
Category of Item	.0136	1	.0136	0.788
Grade by Category	.2778	1	.2778	16.105 **
Within Cells	.4486	26	.0172	

\*  $p < .05$   
\*\*  $p < .001$